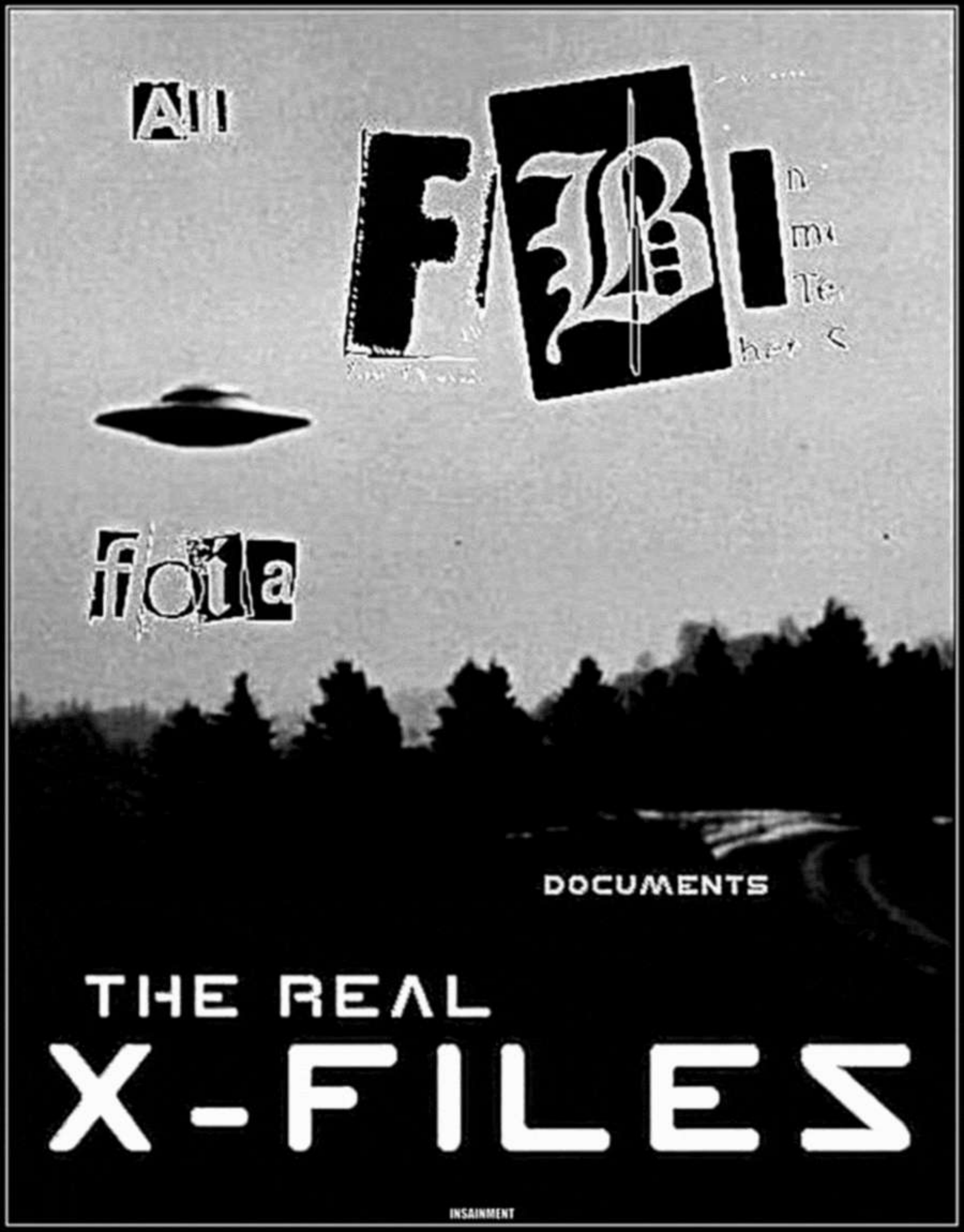
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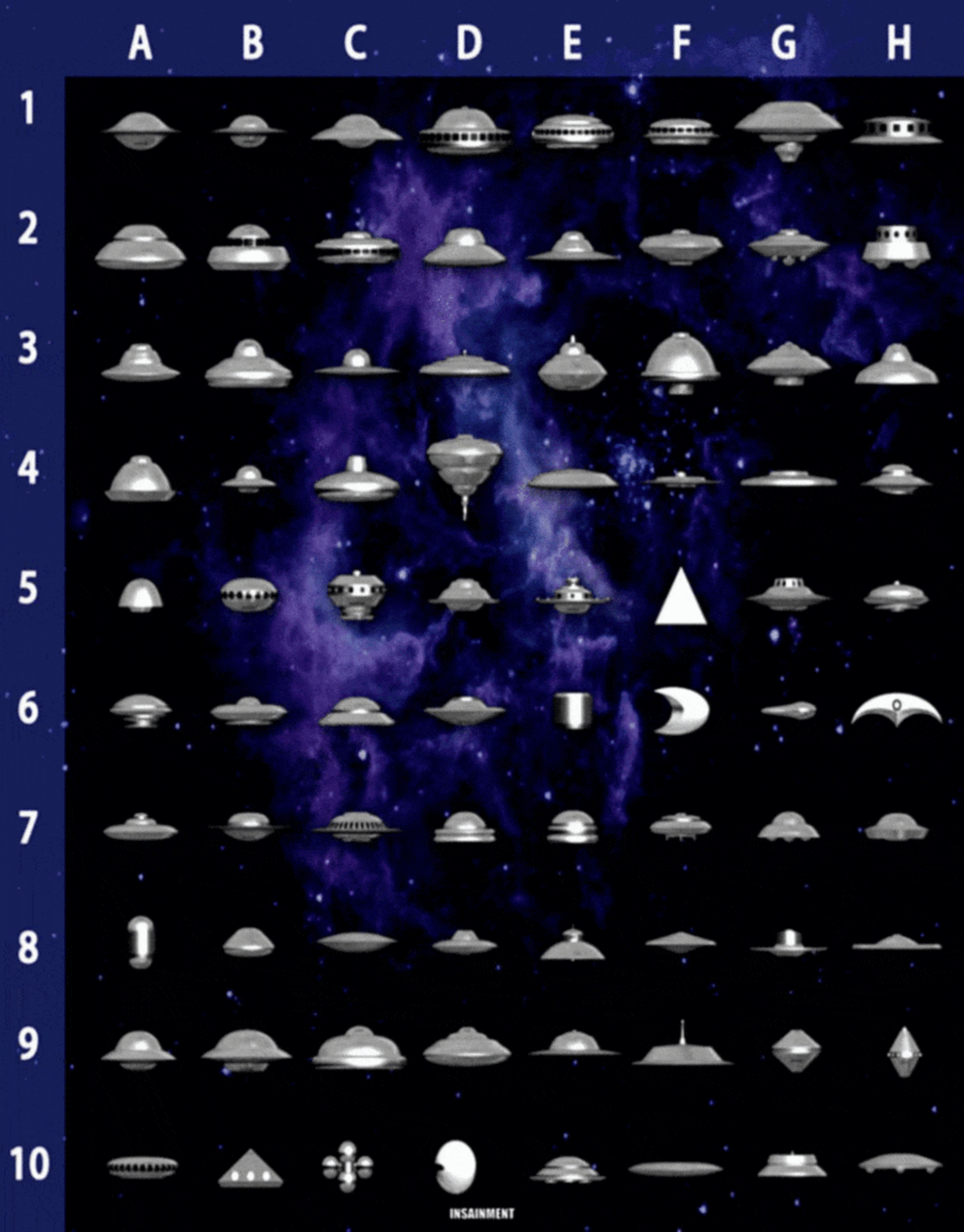
Washington DC, July 12th 1952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CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. OO-W-23682

CD NO. --

COUNTRY	Germany	DATE OF INFORMATION	1952
SUBJECT	Military; Scientific		
HOW PUBLISHED	Daily newspaper	DATE DIST.	23 Aug 1952
WHERE PUBLISHED	Athens	NO. OF PAGES	2
DATE PUBLISHED	9 Jul 1952		
LANGUAGE	Greek	SUPPLEMENT TO REPORT NO.	

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE I Kathimerini.

"FLYING SAUCERS" IN EAST GERMANY

Berlin, July -- Furnished with the sworn testimony of an eyewitness, Oscar Linke, a 46-year-old German and former mayor of Gleimershausen, West Berlin intelligence officers have begun investigating a most unusual "flying saucer" story. According to this story, an object "resembling a huge flying pan" and having a diameter of about 15 meters landed in a forest clearing in the Soviet Zone of Germany.

Linke recently escaped from the Soviet Zone along with his wife and six children.

Linke and his 11-year-old daughter, Gabriella, made the following sworn statement last week before a judge: "While I was returning to my home with Gabriella, a tire of my motorcycle blew out near the town of Hasselbach. While we were walking along toward Hasselbach, Gabriella pointed out something which lay at a distance of about 140 meters away from us. Since it was twilight, I though that she was pointing at a young deer.

"I left my motorcycle near a tree and walked toward the spot which Gabriella had pointed out. When, however, I reached a spot about 55 meters from the object, I realized that my first impression had been wrong. What I had seen were two men who were now about 40 meters away from me. They seemed to be dressed in some shiny metallic clothing. They were stooped over and were looking at something lying on the ground.

"I approached until I was only about 10 meters from them. I looked over a small fence and then I noticed a large object whose diameter I estimated to be between 13 and 15 meters. It looked like a huge frying pan.

"There were two rows of holes on its periphery, about 30 centimeters in circumference. The space between the two rows was about 0.45 meters. On

WHERE PUBLISHED Athens

NO. OF PAGES 2

DATE PUBLISHED 9 Jul 1952

LANGUAGE Greek

SUPPLEMENT TO REPORT NO.

[redacted]

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"There were two rows of holes on its periphery, about 30 centimeters in circumference. The space between the two rows was about 0.45 meters. On the top of this metal object was a black conical tower about 3 meters high.

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DATE 6 Nov

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CLASSIFICATION [redacted]

STATE	X	NAVY	X	NSRB		DISTRIBUTION						
ARMY	X	AIR	X	FBI								

"At that moment, my daughter, who had remained a short distance behind me, called me. The two men must have heard my daughter's voice because they immediately jumped on the conical tower and disappeared inside.

"I had previously noted that one of the men had a lamp on the front part of his body which lit up at regular intervals.

"Now, the side of the object on which the holes had been opened began to glitter. Its color seemed green but later turned to red. At the same time I began to hear a slight hum. While the brightness and hum increased, the conical tower began to slide down into the center of the object. The whole object then began to rise slowly from the ground and rotate like a top.

"It seemed to me as if it were supported by the cylindrical plant which had gone down from the top of the object, through the center, and had now appeared from its bottom on the ground.

"The object, surrounded by a ring of flames, was now a certain number of feet above the ground.

I then noted that the whole object had risen slowly from the ground. The cylinder on which it was supported had now disappeared within its center and had reappeared on the top of the object.

"The rate of climb had now become greater. At the same time my daughter and I heard a whistling sound similar to that heard when a bomb falls.

"The object rose to a horizontal position, turned toward a neighboring town, and then, gaining altitude, it disappeared over the heights and forests in the direction of Stockheim."

Many other persons who live in the same area as Linke later related that they saw an object which they thought to be a comet. A shepherd stated that he thought that he was looking at a comet moving away at a low altitude from the height on which Linke stood.

After submitting his testimony to the judge, Linke made the following statement: "I would have thought that both my daughter and I were dreaming if it were not for the following element involved: When the object had disappeared, I went to the place where it had been. I found a circular opening in the ground and it was quite evident that it was freshly dug. It was exactly the same shape as the conical tower. I was then convinced that I was not dreaming."

Linke continued, "I had never heard of the term 'flying saucer' before I escaped from the Soviet Zone into West Berlin. When I saw this object, I immediately thought that it was a new Soviet military machine.

"I confess that I was seized with fright because the Soviets do not want anyone to know about their work. Many persons have been restricted to their movements for many years in East Germany because they know too much."

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release

Minutes
of
Branch Chief's Meeting of
11 August 1952

(b)(3) The meeting was at 0835 in Mr. Steele's office with a quorum consisting of Mr. Sullivan, Chairman, Mr. Ahern, Mr. Barnard, Mr. Engle, Dr. Fairchild, Dr. Fondiller, ~~Lt.~~ Mr. Gordon, Dr. Harkin and Mr. Rajala.

Mr. Sullivan opened the meeting by saying that a project is to be started in the P&E Division on "Flying Saucers." It ~~was~~ had been suggested by Dr. Odarenko that this project be set up to maintain ~~the~~ a file ~~to establish outside contacts~~ on such matters ~~and to build up the up-to-date knowledge of the available parts~~ to permit the Division and office to take a stand and to formulate an opinion as might be required.

ATIC has the job of finding out about ~~these~~ "flying saucers" and keeping records. CIA is responsible for getting information for CIA. All members of the P&E Division are to look into this project and see what they can contribute to this problem. Each Branch ~~was~~ appointed a representative:

(b)(3) Mr. Elby for Physics, and Mr. Barnard for Electronics and Communications.

~~Lt.~~ Mr. Ray Gordon is Project Officer for the P&E Division. ~~He~~ Mr. Sullivan is to find out who is handling the project in CRD, ~~and~~ Mr. Gordon is to get a past history of what has been found out in the field of meteorology, radar and the other sciences. He should secure reports from ATIC and bring us up-to-date on what has been done.

Mr. Steele wanted to know if P&E should be in the position to answer requests coming to us. Since ATIC has a standard form for reference purposes, requests would be answered through contact with them. Air Force has local agents to look into any questions coming to them. ATIC has ~~a~~ record, it was believed, to cover the whole world.

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(b)(3)

It was stated that Mr. S. Possony, who may be a special officer in

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A-2, may be able to contribute something to this problem. Mr. Sullivan (b)(3) gave a summary of the 5 years that Mr. Strong spent ~~at~~ [illegible] b-*

There was no specific problem to be discussed at this time, so ~~The~~ meeting was adjourned.

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Distribution:

* where so many "flying saucers" have been reported of late. Although Mr. Strong knew many people there and traveled the area extensively, no unusual phenomena were ever mentioned or seen.

CLASSIFICATION [redacted]

CENTRAL INTELLIGENCE AGENCY

INFORMATION FROM

FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. OO-W-23759

CD NO. --

COUNTRY	Spain; Tunisia; French Morocco	DATE OF INFORMATION	1952
SUBJECT	Military - Unconventional aircraft	DATE DIST.	27 Aug 1952
HOW PUBLISHED	Daily newspapers		
WHERE PUBLISHED	Tangier; Algiers	NO. OF PAGES	2
DATE PUBLISHED	22 May - 16 Jun 1952	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Spanish; French		

[redacted] THIS IS UNEVALUATED INFORMATION

SOURCE Newspapers as indicated.

FLYING SAUCERS IN SPAIN AND NORTH AFRICA

SMOKE-TRAILING OBJECT OVER BARCELONA -- Tangier, Espana, 22 May 52

Barcelona, 21 May -- As I crossed Jose Antonio Avenue on my way to the newspaper office, I saw a strange object flying at high speed from the direction of Prat Airport, about 2,000 meters above ground, and leaving a wide smoke trail. It did not look like an aircraft (neither Prat nor Sabadell airport admitted any knowledge of the object), and unlike the so-called flying saucers, it was proceeding in a straight line, without emitting flashes of light or revolving on an axis. The object seemed to me to be rocket-shaped, and the smoke came out of two points close together, merging into a single streak.

My colleagues at the office saw the smoke but not the object. Over Badalona, about 10 kilometers away, the object stopped trailing smoke, disappeared for a few seconds, and reappeared, again emitting smoke, several kilometers farther away. The newspaper office was soon flooded with telephone calls from people who had seen the object. A friend of ours took the picture of the smoke trail. -- Valentin Garcia

[The picture shows a diagonal stripe of diminishing width and lighter in shade than the sky over the dark bulk of a building cornice. It is attributed to Francisco Andreu. The caption says that the picture was taken "on 17 May," although the report is dated 21 May.]

UNUSUAL OBJECT OVER TUNISIA -- Algiers, Echo d'Alger, 4 Jun 52

On 3 June, at about 2000 hours, many inhabitants of Sousse saw a flying object traveling at dizzy speed from west to east and emitting a pale green light.

WHERE PUBLISHED Tangier; Algiers

NO. OF PAGES 2

DATE PUBLISHED 22 May - 16 Jun 1952

SUPPLEMENT TO REPORT NO.

LANGUAGE Spanish; French

[redacted]

THIS IS UNEVALUATED INFORMATION

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STATE	X	NAVY
ARMY	X	AIR

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FLYING SAUCER OVER MEKNES, MOROCCO -- Algiers, Echo d'Alger, 11 Jun 52

Two witnesses reported a flying saucer appearing above Meknes at 1300 hours on 7 June 1952. One of them said that he saw a bright spot in the sky moving at lightning speed. He was able to compare its speed with that of some T-33 planes flying near the Meknes base, for they seemed very slow by comparison. The unknown apparatus emitted a white trail of smoke and made no sound. It drew near, described a parabola in the sky, stopped, and then disappeared toward Ifrane in the south.

FLAMING DISC ABOVE TAOURIRT, MOROCCO -- Algiers, Echo d'Alger, 16 Jun 52

On the morning of 15 June 1952, a strange phenomenon appeared above Taourirt, French Morocco. For 30 seconds, dock workers saw a disc of white flames surrounded by two circular strands, with smoke trailing behind it. The fiery object, which seemed to move earthward, vanished rapidly.

SAUCER OVER CASABLANCA -- Algiers, Journal d'Alger, 16 Jun 52

After Meknes and Marrakech, Casablanca had its flying saucer on 15 June 1952. It was observed by Andre Assorin, a former pilot. The Meteorological Bureau claims that is has not seen this unusual apparition above Casablanca.

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INFORMAL

Deputy Assistant Director/SI 1 August 1952

Acting Chief, Weapons & Equipment Division

"Flying Saucers"

1. Pursuant to your request for overall evaluation of "flying saucers" and associated reports, the following is pertinent:

a. Of 1000 to 2000 such reports received by ATIC, a large percentage are clearly "phoney". An equally large percentage can be satisfactorily explained as known flights of currently operational U.S. equipment (aircraft, weather balloons, etc.) and many others are undoubtedly of natural phenomena (meteorites, clouds, aberration of light caused by thermal inversion or reflections, etc.).

b. Less than 100 reasonably credible reports remain "unexplainable" at this time; regarding these reports, there is no pattern of specific sizes, configurations, characteristics, performance, or location. The sources of these reports are generally no more or less credible than the sources of the other categories. It is probable that if complete information were available for presently "unexplainable" reports, they, too, could be evaluated into categories as indicated in "a" above.

2. Notwithstanding the foregoing tentative facts, so long as a series of reports remains "unexplainable" (interplanetary aspects and alien origin not being thoroughly excluded from consideration) caution requires that intelligence continue coverage of the subject.

3. It is recommended that CIA surveillance of subject matter, in coordination with proper authorities of primary operational concern at ATIC, be continued. It is strongly urged, however, that no indication of CIA interest or concern reach the press or public, in view of their probable alarmist tendencies to accept such interest as "confirmatory" of the soundness of "unpublished facts" in the hands of the U. S. Government.

4. The undersigned has arranged with the Commanding Officer of the Air Technical Intelligence Center at Wright-Patterson Air Force Base, Ohio, for a thorough and comprehensive briefing related to this subject on 8 August 1952. Subsequent to obtaining full details, a detailed analysis will be prepared and forwarded.

EDWARD TAUSS

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JUL 29 1952

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DD/I

AD/SI

DAD/SI

P. G. STRONG

F. C. DURANT

H. CHANNING

M. J. CARDER

J. B. QUIGLEY

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CLASSIFICATION [redacted]

CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. 00-W-23602

CD NO. --

COUNTRY	Belgian Congo	DATE OF INFORMATION	1952
SUBJECT	Military; Scientific - Air		
HOW PUBLISHED	Daily newspaper	DATE DIST.	16 Aug 1952
WHERE PUBLISHED	Vienna	NO. OF PAGES	2
DATE PUBLISHED	29 Mar 1952		
LANGUAGE	German	SUPPLEMENT TO REPORT NO.	

[redacted] THIS IS UNEVALUATED INFORMATION

SOURCE Die Presse.

FLYING SAUCERS OVER BELGIAN CONGO URANIUM MINES

Fritz Sitte

Recently, two fiery disks were sighted over the uranium mines located in the southern part of the Belgian Congo in the Elisabethville district, east of the Luapula River which connects the Meru and Bangweolo lakes. The disks glided in elegant curves and changed their position many times, so that from below they sometimes appeared as plates, ovals, and simply lines. Suddenly, both disks hovered in one spot and then took off in a unique zigzag flight to the northeast. A penetrating hissing and buzzing sound was audible to the onlookers below. The whole performance lasted from 10 to 12 minutes.

Commander Pierre of the small Elisabethville airfield immediately set out in pursuit with a fighter plane. On his first approach he came within about 120 meters of one of the disks. According to his estimates, the "saucer" had a diameter of from 12 to 15 meters and was discus-shaped. The inner core remained absolutely still, and a knob coming out from the center and several small openings could plainly be seen. The outer rim was completely veiled in fire and must have had an enormous speed of rotation. The color of the metal was similar to that of aluminum.

The disks traveled in a precise and light manner, both vertically and horizontally. Changes in elevation from 800 to 1,000 meters could be accomplished in a few seconds; the disks often shot down to within 20 meters of the tree tops. Pierre did not regard it possible that the disk could be manned, since the irregular speed as well as the heat would make it impossible for a person to stay inside the stable core. Pierre had to give up pursuit after 15 minutes since both disks, with a loud whistling sound which he heard despite the noise of his own plane, disappeared in a straight line toward Lake Tanganyika. He estimated their speed at about 1,500 kilometers per hour.

'UBLISHED Vienna

NO. OF PAGES 2

DATE
'UBLISHED 29 Mar 1952

ANGUAGE German

SUPPLEMENT TO
REPORT NO.

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Pierre is regarded as a dependable officer and a zealous flyer. He gave a detailed report to his superiors which, strangely enough, in many respects agreed with various results of research.

ARCHIVAL RECORD
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DATE ...

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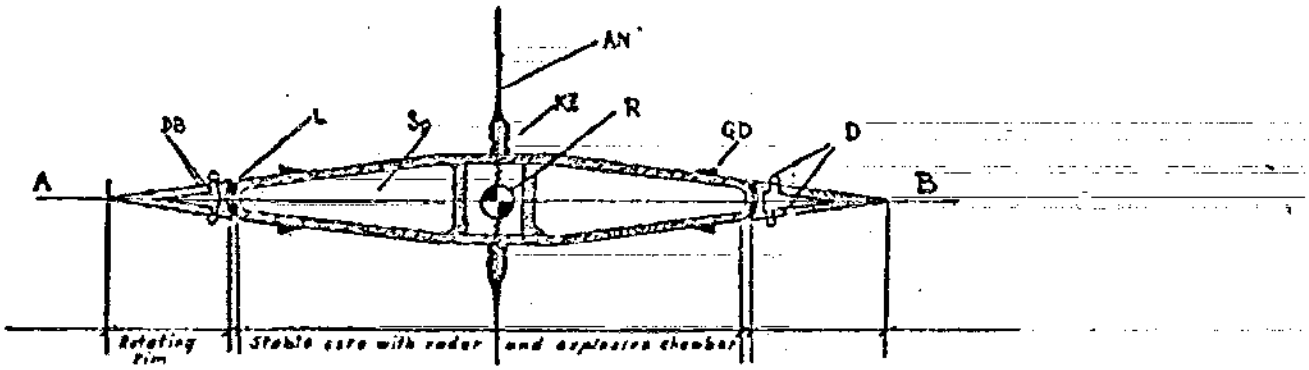
CLASSIFICATION

STATE	X	NAVY	X	NSRB		DISTRIBUTION		AEC	X			
ARMY	X	AIR	X	FBI								

The sketch below shows the construction principle of the "flying saucers." The captions are, in part, purely conjecture, based on reports by pilots who pursued the disks; in part, they were learned from secret research institutions. The central core contains the explosive (SP) and the installations for radar steerage (R). It has catapult knobs (KZ) and antennae (AN) as well as counter-pressure housing (GD). Around this core, a rim rotates which has jets (D) on its upper and lower side, plus fuel chambers (DB). The roller bearing is shown by the letter L. The launching occurs at a sharp angle in the manner of a discus throw; the revolutions per minute of the rim probably amount to 22,000. The jets on the bottom of the rim serve to propel the disk vertically upwards; lateral steerage results from switching on and off various jet groups.

[Appended sketch follows:]



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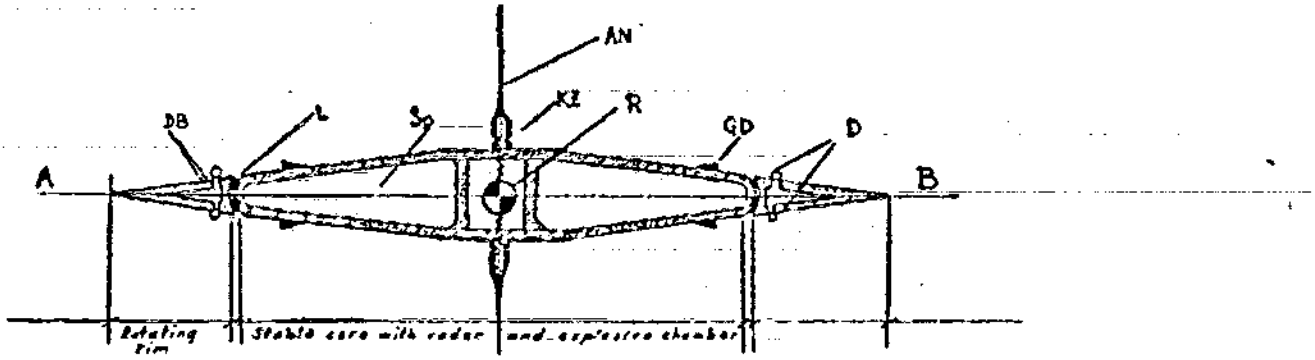

[redacted]

COMMENTS AND SUGGESTIONS OF UFO PANEL

General.

The Panel Members were impressed with the lack of sound data in the great majority of case histories. Among the case histories of significant sightings discussed in detail were the following:

Bellefontaine, Ohio (1 August 1952); Tremonton, Utah (2 July 1952); Great Falls, Montana (15 August 1950); Yaak, Montana (1 September 1952); Washington, D.C. area (19 July 1952); and Haneda A.F.B., Japan (5 August 1952), Port Huron, Michigan (29 July 1952); and Presque Isle, Maine (10 October 1952).

After review and discussion of these cases (and about 15 others, in less detail), the Panel concluded that reasonable explanations could be suggested for most sightings and "by deduction and scientific method it could be induced (given additional data) that other cases might be explained in a similar manner". The Panel pointed out that because of the brevity of some sightings (e.g., 2-3 seconds) and the inability of the witnesses to express themselves clearly (semantics) that conclusive explanations could not be expected for every case reported. Furthermore, it was considered that, normally, it would be a great waste of effort to try to solve most of the sightings, unless such

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action would benefit a training and educational program (see below). The writings of Charles Fort were referenced to show that "strange things in the sky" had been recorded for hundreds of years. It appeared obvious that there was no single explanation for a majority of the things seen.

On Lack of Danger.

The Panel concluded unanimously that there was no evidence of a direct threat to national security in the objects sighted. Instances of "Foo Fighters" were cited. These were unexplained phenomena sighted by aircraft pilots during World War II in both European and Far East theaters of operation wherein "balls of light" would fly near or with the aircraft and maneuver rapidly. They were believed to be electrostatic (similar to St. Elmo's fire) or electromagnetic phenomena or possibly light reflections from ice crystals in the air, but their exact cause or nature was never defined. If the term "flying saucers" had been popular in 1943-1945, these objects would have been so labeled.

Air Force Reporting System.

It was the Panel's opinion that some of the Air Force concern over UFO's (notwithstanding Air Defense Command anxiety over fast radar tracks) was probably caused by public pressure. The result today is that the Air Force

has instituted a fine channel for receiving reports of nearly anything anyone sees in the sky and fails to understand. This has been particularly encouraged in popular articles on this and other subjects, such as space travel and science fiction. The result is the mass receipt of low-grade reports which tend to overload channels of communication with material quite irrelevant to hostile objects that might some day appear. The Panel agreed generally that this mass of poor-quality reports containing little, if any, scientific data was of no value. Quite the opposite, it was possibly dangerous in having a military service foster public concern in "nocturnal meandering lights". The implication being, since the interested agency was military, that these objects were or might be potential direct threats to national security. Accordingly, the need for deemphasization made itself apparent. Comments on a possible educational program are enumerated below.

It was the opinion of one of the Panel members that the "saucer" problem had been found to be different in nature from the detection and investigation of German V-1 and V-2 guided missiles prior to their operational use in World War II. In this 1943-1944 intelligence operation (CROSSBOW), there was excellent intelligence, and by June

1944 there was material evidence of the existence of "hardware" obtained from crashed vehicles in Sweden. This evidence gave the investigating team a basis upon which to operate. The absence of any "hardware" resulting from unexplained UFO sightings lends a "will-of-the-wisp" nature to the problem. The results of the investigation, to date, strongly indicate that no evidence of hostile act or danger exists. Furthermore, the current reporting system would have little value in the case of detection of enemy attack by conventional aircraft or guided missiles; under such conditions "hardware" would be available almost at once.

Artifacts of Extraterrestial Origin.

It was interesting to note that none of the members of the Panel were loath to accept that this earth might be visited by extraterrestrial intelligence beings of some sort, some day. What they did not find was any evidence that related the objects sighted to space travelers. One of the Panel members, in his presentation, showed how he had eliminated each of the known and probable causes of sightings leaving him "extra-torrestial" as the only one remaining in many cases. His background as an aeronautical engineer and technical intelligence officer could not be slighted. However, the Panel could not accept any of

the cases cited by him because they were raw, unevaluated reports. Terrestrial explanations of the sightings were suggested in some cases, and in others the time of sighting was so short as to cause suspicion of visual impressions. It was noted by others of the Panel members that extra-terrestrial artifacts, if they did exist, are no cause for alarm; rather, they are in the realm of natural phenomena subject to scientific study, just as cosmic rays were at the time of their discovery 20 to 30 years ago. This was an attitude in which another of the Panel members did not concur, as he felt that such artifacts would be of immediate and great concern not only to the U.S. but to all countries. (Nothing like a common threat to unite peoples!) It was noted that present astronomical knowledge of the solar system makes the existence of intelligent beings (as we know the term) elsewhere than on the earth extremely unlikely, and the concentration of their attention by any controllable means confined to any one continent of the earth quite preposterous.

Tremonton, Utah, Sighting.

This case was considered significant because of the excellent documentary evidence in the form of Kodachrome motion picture films (about 1600 frames). The Panel

studied these films, the case history, ATIC's interpretation, and received a briefing by representatives of the USN Photo Interpretation Laboratory on their analysis of the film. This team had expended (at Air Force request) approximately 1000 man-hours of professional and sub-professional time in the preparation of graph plots of individual frames of the film, showing apparent and relative motion of objects and variation in their light intensity. It was the opinion of the P.I.L. representatives that the objects sighted were not birds, balloons or aircraft, were "not reflections because there was no blinking while passing through 60° of arc" and were, therefore, "self-luminous". Plots of motion and variation in light intensity of the objects were displayed. While the Panel Members were impressed by the evident enthusiasm, industry and extent of effort of the P.I.L. team, they would not accept the conclusions reached. Some of the reasons for this were as follows:

a. A semi-spherical object can readily produce a reflection of sunlight without "blinking" through 60° of arc travel.

b. Although no date was available on the "albedo" of birds or polyethylene balloons

in bright sunlight, the apparent motions, sizes and brightnesses of the objects were considered strongly to suggest birds, particularly after the Panel viewed a short film showing high reflectivity of seagulls in bright sunlight.

c. P.I.L. description of the objects sighted as "circular, bluish-white" in color would be expected in cases of specular reflections of sunlight from convex surfaces where the brilliance of the reflection would obscure other portions of the object.

d. Objects in the Great Falls case were believed to have probably been aircraft, and the bright lights such reflections.

e. There was no valid reason for the attempt to relate the objects in the Tremonton sighting to those in the Great Falls sighting. This may have been due to misunderstanding in their directive. The objects in the Great Falls sighting are strongly suspected of being reflections of aircraft known to have been in the area.

f. The intensity change in the Tremonton lights was too great for acceptance of the P.I.L. hypothesis that the apparent motion and changing

intensity of the lights indicated extremely high speed in small orbital paths.

g. Apparent lack of guidance of investigators by those familiar with UFO reports and explanations.

h. Analysis of light intensity of objects made from duplicate rather than original film. The original film was noted to have a much lighter background (affecting relative brightness of object) and the objects appeared much less bright.

i. Method of obtaining data of light intensity appeared faulty because of unsuitability of equipment and questionable assumptions in making averages of readings.

j. No data had been obtained on the sensitivity of Kodachrome film to light of various intensities using the same camera type at the same lens openings.

k. Hand "jitter" frequencies (obtainable from early part of Tremonton film) were not removed from the plots of the "single pass plots" at the end of the film.

The Panel believed strongly that the data available on this sighting was sufficient for positive identification if further data is obtained by photographing polyethylene "pillow" balloons released near the site under similar weather conditions, checking bird flight and reflection characteristics with competent ornithologists and calculating apparent "G" forces acting upon objects from their apparent tracks. It was concluded that the results of such tests would probably lead to creditable explanations of value in an educational or training program. However, the Panel noted that the cost in technical manpower effort required to follow up and explain every one of the thousand or more reports received through channels each year (1,900 in 1952) could not be justified. It was felt that there will always be sightings, for which complete data is lacking, that can only be explained with disproportionate effort and with a long time delay, if at all. The long delay in explaining a sighting tends to eliminate any intelligence value. The educational or training program should have as a major purpose the elimination of popular feeling that every sighting, no matter how poor the data, must be explained in detail. Attention should be directed to the requirement among scientists that a new phenomena, to be accepted, must be completely and convincingly documented.

In other words, the burden of proof is on the sighter, not the explainer.

Potential Related Dangers.

The Panel Members were in agreement that although evidence of any direct threat from these sightings was wholly lacking, related dangers might well exist resulting from:

a. Misidentification of actual enemy artifacts by defense personnel.

b. Overloading of emergency reporting channels with "false" information ("noise to signal ratio").

c. Subjectivity of public to mass hysteria and greater vulnerability to possible enemy psychological warfare.

The first two of these problems may seriously affect the Air Defense intelligence system, and should be studied by experts, possibly under ADC. If UFO's become discredited in a reaction to the "flying saucer" scare, or if reporting channels are saturated with false and poorly documented reports, our capability of detecting hostile activity will be reduced. More competent screening or filtering of reported sightings at or near the source is

required, and this can best be accomplished by an educational program.

Geographic Locations of Unexplained Sightings.

The map prepared by ATIC showing geographic locations of officially reported unexplained sightings (1952 only) was examined by the Panel. This map showed clusters in certain strategic areas such as Los Alamos. This might be explained on the basis of 24-hour watchful guard and awareness of security measures near such locations. On the other hand, there had been no sightings in the vicinity of sensitive related AE establishments while there were occasionally multiple cases of unexplained sightings in non-strategic areas. Furthermore, there appeared to be no logical relationship to population centers. The Panel could find no ready explanation for these clusters. It was noted, however, that if terrestrial artifacts were to be observed, it would be likely that they would be seen first near foreign areas rather than central U.S.

Instrumentation to Obtain Data.

The Panel was of the opinion that the present ATIC program to place 100 inexpensive 35 mm. stereo cameras (Videon Cameras) in the hands of various airport control tower operators would probably produce little valuable

data related to UFO's. However, it was recognized that such action would tend to allay public concern in the subject until an educational program had taken effect. It was believed that procurement of these cameras was partly the result of public pressure in July 1952. With the poor results of the year-long Project TWINKLE program of 24-hour instrumentation watch (two frames of film showing nothing distinguishable), a widespread program of skywatching would not be expected to yield much direct data of value.

There was considerable discussion of a possible "sky patrol" by amateur astronomers and by wide-angle cameras. It was pointed out that at present a considerable fraction of the sky is now -- and has been for many years -- under surveillance every clear night in several meteor and aurora observing programs as well as sky mapping programs at the various locations listed below. Although the attention of these astronomers is largely directed toward identified rather than unidentified objects, no case of any striking unidentified object is known to the Panel. Such an object would most certainly be reported if found on patrol plates.

A case was cited where an astronomer refused to interrupt his exposure in order to photograph an alleged sighting in a different part of the sky, suggesting that if

a program of watching could be an adjunct of planned astronomical programs, little cost would be involved and that the trained astronomical personnel might photograph a sighting of an unidentified object.

It was agreed by the Panel that no government-sponsored program of optical nation-wide sky patrol is worthwhile at the present time, and that the encouragement of amateur astronomers to undertake such a program might have the adverse effect of over-emphasizing "flying saucer" stories in the public mind. However, the issue of radar-scope cameras for recording peculiar radar echoes would serve several purposes, including the better understanding of radar interference as well as identification of UFO's.

Radar Problem of Mutual Interference.

This characteristic problem of radar operation wherein the pulse signal (of approximately the same frequency) from station A may be picked up on the screen of station B and show as a high-speed track or series of dots was recognized to have probably caused a number of UFO reports. This problem was underlined by information received indicating ADC concern in solving this problem of signal identification before service use of very high-speed aircraft or guided missiles (1955-1956). One

Panel member believed that one answer to this problem was the use of a "doppler filter" in the receiving circuit. Another suggested that the problem might be better solved by the use of a "controlled jitter" wherein the operator receiving "very fast tracks" (on the order of 1000-12,000 mph) would operate a circuit which would alter slightly his station's pulse frequency rate. If the signal received on the screen had been caused by mutual interference with another station, the track would now show itself at a different distance from the center of the screen, if it still appeared at all. Such a technical solution was thought to be simpler and would cost much less than a "doppler filter".

Unexplained Cosmic Ray Phenomena.

Two reported cases were examined: one at Palomar Mountain, California, in October 1949, when cosmic ray counters went "off scale for a few seconds", apparently while a "V" of flying saucers was observed visually; and two, a series of observations by the "Los Alamos Bird Watchers Association" from August 1950 to January 1951, when cosmic ray coincidence counters behaved queerly. Circuit diagrams and records were available for the latter, and a Panel member was also quickly to point out that the recorded data were undoubtedly due to instrumental effects

that would have been recognized as such by more experienced observers.

The implication that radioactive effects were correlated with unidentified flying objects in these two cases was, therefore, rejected by the Panel.

Educational Program.

The Panel's concept of a broad educational program integrating efforts of all concerned agencies was that it should have two major aims: training and "debunking".

The training aim would result in proper recognition of unusually illuminated objects (e.g., balloons, aircraft reflections) as well as natural phenomena (meteors, fireballs, mirages, noctilucent clouds). Both visual and radar recognition are concerned. There would be many levels in such education from enlisted personnel to command and research personnel. Relative emphasis and degree of explanation of different programs would correspond to the categories of duty (e.g., radar operators; pilots; control tower operators; Ground Observer Corps personnel; and officers and enlisted men in other categories). This training should result in a marked reduction in reports caused by misidentification and resultant confusion.

The "debunking" aim would result in reduction in public interest in "flying saucers" which today evokes a

strong psychological reaction. This education could be accomplished by mass media such as television, motion pictures, and popular articles. Basis of such education would be actual case histories which had been puzzling at first but later explained. As in the case of conjuring tricks, there is much less stimulation if the "secret" is known. Such a program should tend to reduce the current gullibility of the public and consequently their susceptibility to clever hostile propaganda.

Members of the Panel had various suggestions related to the planning of such an educational program. It was felt strongly that psychologists familiar with mass psychology should advise on the nature and extent of the program. Also, someone familiar with mass communication techniques, perhaps an advertising expert, would be helpful. The teaching techniques used for aircraft identification during the past war were cited as an example of a similar educational task. The amateur astronomers in the U.S. might be a potential source of enthusiastic talent "to spread the gospel". It was believed that business clubs, high schools, colleges, and television stations would all be pleased to cooperate in the showing of documentary type motion pictures if prepared in an interesting manner.

The use of true cases showing first the "mystery" and then the "explanations" would be forceful.

To plan and execute such a program, the Panel believed was no mean task. The current investigatory group at ATIC would, of necessity, have to be closely integrated for support with respect to not only the historical cases but the current ones. Recent cases are probably much more susceptible to explanation than older ones; first, because of ATIC's experience and, secondly, their knowledge of most plausible explanations. The Panel believed that some expansion of the ATIC effort would certainly be required to support such a program. It was believed inappropriate to state exactly how large a Table of Organization would be required.

The Panel believed that, with ATIC's support, the educational program of "training and debunking" outlined above might be required for a minimum of one and one-half to two years. At the end of this time, the dangers related to "flying saucers" should have been greatly reduced if not eliminated. Cooperation from other military services and agencies concerned (e.g., Federal Civil Defense Administration) would be a necessity. In investigating significant cases (such as the Tremonton, Utah, sighting), controlled experiments might be required. An example would be the

photographying of "pillow balloons" at different distances under similar weather conditions at the site.

The help of one or two psychologists and writers and a subcontractor to produce training films would be necessary in addition. The Panel considered that ATIC's efforts, temporarily expanded as necessary, could be most useful in implementing any action taken as a result of its recommendations. Experience and records in ATIC would be of value in both the public educational and service training program envisaged. At least one Panel member was of the opinion that after public gullibility lessened and the service organizations, such as ADC, had been trained to sift out the more readily explained spurious sightings, there would still be a role for a very modest-sized ATIC section to cope with the residuum of items of possible scientific intelligence value. This section should concentrate on energetically following up those cases which seemed to indicate the evidence of unconventional enemy artifacts. Reports of such artifacts would be expected to arise mainly from Western outposts in far closer proximity to the Iron Curtain than Lubbock, Texas!

Unofficial Investigating Groups.

The Panel took cognizance of the existence of such groups as the "Civilian Flying Saucer Investigators"

(Los Angeles) and the "Aerial Phenomena Research Organization (Wisconsin)". It was believed that such organizations should be watched because of their potentially great influence on mass thinking if widespread sightings should occur. The apparent irresponsibility and the possible use of such groups for subversive purposes should be kept in mind.

Increase in Number of Sightings.

The consensus of the Panel was, based upon the history of the subject, that the number of sightings could be reasonably expected to increase again this summer.

SCIENTIFIC ADVISORY PANEL ON UNIDENTIFIED

FLYING OBJECTS

14-17 January 1953

Evidence Presented.

1. Seventy-five case histories of sightings 1951-1952 (selected by ATIC as those best documented).

2. ATIC Status and Progress Reports of Project GRDUGE and Project BLUE BOOK (code names for ATIC study of subject).

3. Progress Reports of Project STORK (Institute contract work supporting ATIC).

4. Summary Report of Sightings at Holleman Air Force Base, New Mexico.

5. Report of USAF Research Center, Cambridge, Mass., Investigation of "Green Fireball" Phenomena (Project TWINKLE).

6. Outline of Investigation of UFO's Proposed by Kirtland Air Force Base (Project POUNCE).

7. Motion Picture Films of sightings at Tremonton, Utah, 2 July 1952 and Great Falls, Montana, August 1950.

8. Summary Report of 89 selected cases of sightings of various categories (Formations, Blinking Lights, Hovering, etc.).

9. Draft of manual: "How to Make a FLYOBRPT", prepared at ATIC.

10. Chart Showing Plot of Geographic Location of Unexplained Sightings in the United States during 1952.

11. Chart Showing Balloon Launching Sites in the United States.

12. Charts Showing Selected Actual Balloon Flight Paths and Relation to Reported Sightings.

13. Charts Showing Frequency of Reports of Sightings 1948-1952.

14. Charts Showing Categories of Explanations of Sightings.

15. Kodachrome Transparencies of Polyethylene Film Balloons in Bright Sunlight Showing High Reflectivity.

16. Motion Picture of Seagulls in Bright Sunlight Showing High Reflectivity.

17. Intelligence Reports Relating to U.S.S.R. Interest in U.S. Sightings.

18. Samples of Official USAF Reporting Forms and Copies of Pertinent Air Force, Army, and Navy Orders Relating to Subject.

19. Sample Polyethylene "Pillow" Balloon (54 inches square.

20. "Variations in Radar Coverage", JANP 101 (Manuel illustrating unusual operating characteristics of service radar).

21. Miscellaneous Official Letters and Foreign Intelligence Reports Dealing with Subject.

22. Copies of Popular Published Works Dealing with Subject (articles and periodicals, newspaper clippings).

(18)

[redacted]

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : Dr. Machle, OSI

DATE: 15 March 1949

FROM : Dr. Stone, OSI

SUBJECT: Flying Saucers

1. A rapid perusal of your documents leaves one confused and inclined to supineness.

2. The following considerations seem not to have been included in the survey:

a. No suggestion is noted that there is a possibility that many of the objects may be "free" meteorological sounding balloons.

b. If a tame "flying saucer" is to be involved, it is extremely unlikely that they be found over the U. S. because:

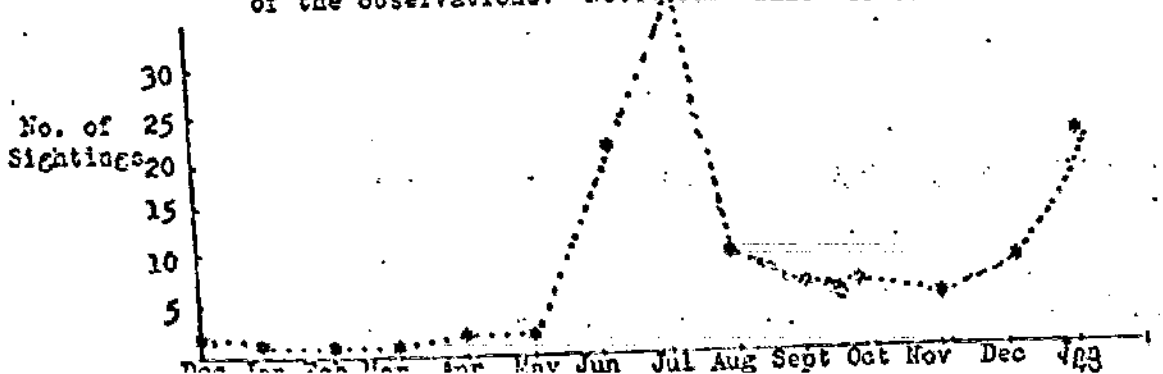
(1) U.S. developments would be closely coordinated with USAF or commercial designers.

(2) Foreign aircraft development would hardly be tested at such a range from home areas, even if fuel could be supplied.

(3) Guided aircraft at a range of several thousand miles are beyond any known capabilities, including ours.

c. What is the psychological probability that any object seen briefly against "zero" background will be circular, or oval, in appearance?

d. Has any one commented on the curious time distribution of the observations? Note chart below:



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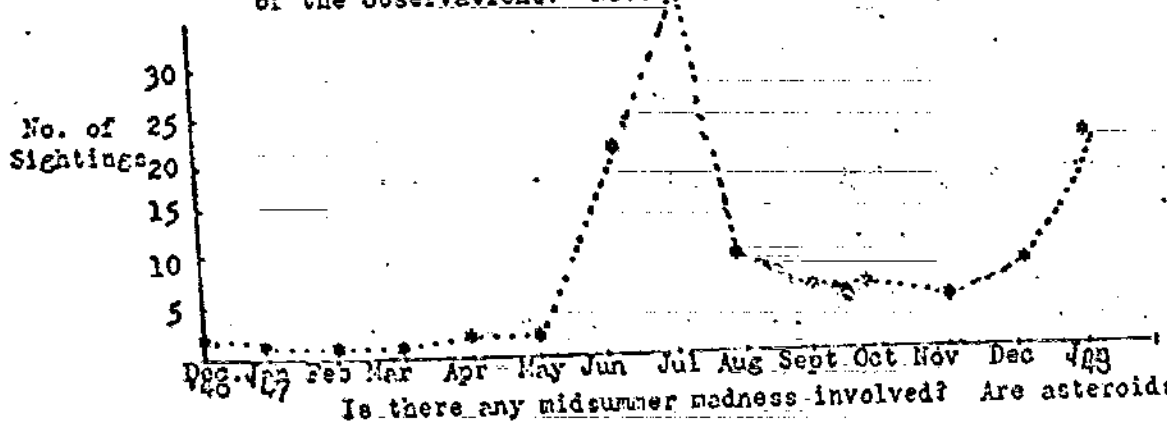

Is there any midsummer madness involved? Are asteroids prominent in that season? Etc., etc.

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18

(25)

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ER - 3 - 2872

OCT 2 1952

MEMORANDUM TO: Director of Central Intelligence

THROUGH: Deputy Director (Intelligence)

FROM: Assistant Director, Office of Scientific Intelligence

SUBJECT: Flying Saucers

1. PROBLEM—To determine: (a) Whether or not there are national security implications in the problem of "unidentified flying objects"; (b) whether or not adequate study and research is currently being directed to this problem in its relation to such national security implications; and (c) what further investigation and research should be instituted, by whom, and under what aegis.

2. FACTS AND DISCUSSION—OSI has investigated the work currently being performed on "flying saucers" and found that the Air Technical Intelligence Center, DI, USAF, Wright-Patterson Air Force Base, is the only group devoting appreciable effort and study to this subject, that ATIC is concentrating on a case-by-case explanation of each report, and that this effort is not adequate to correlate, evaluate, and resolve the situation on an overall basis. The current problem is discussed in detail in TAB A.

3. CONCLUSIONS—"Flying saucers" pose two elements of danger which have national security implications. The first involves mass psychological considerations and the second concerns the vulnerability of the United States to air attack. Both factors are amplified in TAB A.

4. ACTION RECOMMENDED—(a) That the Director of Central Intelligence advise the National Security Council of the implications of the "flying saucer" problem and request that research be initiated. TAB B is a draft memorandum to the NSC, for the DCI's signature. (b) That the DCI discuss this subject with the Psychological Strategy Board. A memorandum to the Director, Psychological Strategy Board, is attached for signature as TAB C. (c) That CIA, with the cooperation of PSB and other interested departments and agencies, develop and recommend for adoption by the NSC a

OCT 2 1952

MEMORANDUM TO: Director of Central Intelligence

THROUGH: Deputy Director (Intelligence)

FROM: Assistant Director, Office of Scientific Intelligence

SUBJECT: Flying Saucers

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[redacted]

policy of public information which will minimize concern and possible panic resulting from the numerous sightings of unidentified objects.

H. Marshall Chadwell

H. MARSHALL CHADWELL
Assistant Director
Scientific Intelligence

ANNEXES:

TAB A—Memorandum to DCI, through DDI, Subject: Flying Saucers.
TAB B—Letter to National Security Council with enclosure.
TAB C—Memo to Director, Psychological Strategy Board with enclosure.

CONCURRENCES:

Date:

LOFTUS E. BECKER
Deputy Director/Intelligence

ACTION BY APPROVING AUTHORITY:

Date:

Approved (disapproved):

WALTER B. SMITH
Director

[redacted]

[redacted]

Executive Registry
52-2122

SEP 24 1952

MEMORANDUM FOR: Director of Central Intelligence

THROUGH : Deputy Director (Intelligence)

SUBJECT : Flying Saucers

1. Recently an inquiry was conducted by the Office of Scientific Intelligence to determine whether there are national security implications in the problem of "unidentified flying objects," i.e., flying saucers; whether adequate study and research is currently being directed to this problem in its relation to such national security implications; and what further investigation and research should be instituted, by whom, and under what aegis.

2. It was found that the only unit of Government currently studying the problem is the Directorate of Intelligence, USAF, which has charged the Air Technical Intelligence Center (ATIC) with responsibility for investigating the reports of sightings. At ATIC there is a group of three officers and two secretaries to which come, through official channels, all reports of sightings. This group conducts investigation of the reports, consulting as required with other Air Force and civilian technical personnel. A world-wide reporting system has been instituted and major Air Force Bases have been ordered to make interceptions of unidentified flying objects. The research is being conducted on a case basis and is designed to provide a satisfactory explanation of each individual sighting. ATIC has concluded an arrangement with Battelle Memorial Institute for the latter to establish a machine indexing system for official reports of sightings.

3. Since 1947, ATIC has received approximately 1500 official reports of sightings plus an enormous volume of letters, phone calls, and press reports. During July 1952 alone, official reports totaled 250. Of the 1500 reports, Air Force carries 20 percent as unexplained and of those received from January through July 1952 it carries 28 percent unexplained.

4. In its inquiry into this problem, a team from CIA's Office of Scientific Intelligence consulted with a representative of Air Force Special Studies Group; discussed the problem with those in charge of the Air Force Project at Wright-Patterson Air Force Base; reviewed a considerable volume of intelligence reports; checked the Soviet press and broadcast indices; and conferred with three CIA consultants, who have broad knowledge of the technical areas concerned.

[redacted]

5. It was found that the ATIC study is probably valid if the purpose is limited to a case-by-case explanation. However, that study does not solve the more fundamental aspects of the problem. These aspects are to determine definitely the nature of the various phenomena which are causing these sightings, and to discover means by which these causes, and their visual or electronic effects, may be identified immediately. The CIA consultants stated that these solutions would probably be found on the margins or just beyond the frontiers of our present knowledge in the fields of atmospheric, ionospheric, and extraterrestrial phenomena, with the added possibility that the present dispersal of nuclear waste products might also be a factor. They recommended that a study group be formed to perform three functions:

a. analyze and systematize the factors which constitute the fundamental problem;

b. determine the fields of fundamental science which must be investigated in order to reach an understanding of the phenomena involved; and

c. make recommendations for the initiation of appropriate research.

Dr. Julius A. Stratton, Vice President of the Massachusetts Institute of Technology, has indicated to CIA that such a group could be constituted at that Institute. Similarly, Project Lincoln, the Air Force's air defense project at MIT, could be charged with some of these responsibilities.

6. The flying saucer situation contains two elements of danger which, in a situation of international tension, have national security implications. These are:

a. Psychological - With world-wide sightings reported, it was found that, up to the time of the investigation, there had been in the Soviet press no report or comment, even satirical, on flying saucers, though Gromyko had made one humorous mention of the subject. With a State-controlled press, this could result only from an official policy decision. The question, therefore, arises as to whether or not these sightings:

(1) could be controlled,

(2) could be predicted, and

(3) could be used from a psychological warfare point of view, either offensively or defensively.

The public concern with the phenomena, which is reflected both in the United States press and in the pressure of inquiry upon the Air Force, indicates that a fair proportion of our population is mentally conditioned to the acceptance of the incredible. In this fact lies the potential for the touching-off of mass hysteria and panic.

b. Air Vulnerability - The United States Air Warning System will undoubtedly always depend upon a combination of radar screening and visual observation. The U.S.S.R. is credited with the present capability of delivering an air attack against the United States, yet at any given moment now, there may be current a dozen official unidentified sightings plus many unofficial ones. At any moment of attack, we are now in a position where we cannot, on an instant basis, distinguish hardware from phantom, and as tension mounts we will run the increasing risk of false alerts and the even greater danger of falsely identifying the real as phantom.

7. Both of these problems are primarily operational in nature but each contains readily apparent intelligence factors.

8. From an operational point of view, three actions are required:

a. Immediate steps should be taken to improve identification of both visual and electronic phantom so that, in the event of an attack, instant and positive identification of enemy planes or missiles can be made.

b. A study should be instituted to determine what, if any, utilization could be made of these phenomena by United States psychological warfare planners and what, if any, defenses should be planned in anticipation of Soviet attempts to utilize them.

c. In order to minimize risk of panic, a national policy should be established as to what should be told the public regarding the phenomena.

9. Other intelligence problems which require determination are:

a. The present level of Soviet knowledge regarding these phenomena.

b. Possible Soviet intentions and capabilities to utilize these phenomena to the detriment of United States security interests.

c. The reasons for silence in the Soviet press regarding flying saucers.

10. Additional research, differing in character and emphasis from that presently being performed by Air Force, will be required to meet the specific needs of both operations and intelligence. Intelligence responsibilities in this field as regards both collection and analysis can be discharged with maximum effectiveness only after much more is known regarding the exact nature of these phenomena.

11. I consider this problem to be of such importance that it should be brought to the attention of the National Security Council, in order that a community-wide coordinated effort towards its solution may be initiated.

H. MARSHALL CHADWELL
Assistant Director
Scientific Intelligence

Memorandum for file OSI-W/A 21 January 1953

Meeting of OSI Advisory Group on UFO
January 14 thru 17, 1953

Declassified by 058375
date 20 APR 1977

At 0945 on January 14, 1953, an ad hoc panel of scientific consultants was convened to review the "Unidentified Flying Objects" problem. A detailed statement of the problem presented to the group by CIA is attached as Appendix A. The panel consisted of the following:

Dr. Robertson, CIT
Dr. Luis Alvarez
Dr. S. Goudsmit, Brookhaven
Dr. Thornton Page, ORO Johns Hopkins
Dr. J.A. Hynek, consultant to ATIC.

The following members of the staff of OSI were present for various parts of the discussions.

Dr. H.M. Chadwell
R.L. Clark
P.G. Strong
F.C. Durant III
Lt. Col. Oder (P&E)
D.B. Stevenson (Weapons)

To assist the scientific panel in its review and analysis of evidence, Capt. E. J. Ruppelt of ATIC, Lt. Neasham and Mr. H. Woo of the Navy photo interpretation lab at Anacostia, and Major Fournet and Capt. Smith of Air Force Directorate of Intelligence were present.

A final report on the results of the meeting is being prepared for the AD/SI by F.C. Durant but it is believed that the following is a fair statement of the conclusions reached:

1. No evidence is available to indicate any physical threat to the security of the United States.

2. No evidence is available to indicate the existence or use of any as yet unknown (to us) fundamental scientific principles.

3. The subject "UFO" is not of direct intelligence interest. It is of indirect intelligence interest only insofar as any knowledge about the innumerable unsolved mysteries of the universe are of intelligence interest.

4. The subject "UFO" is of operational interest for three reasons:
   (a) Interference with air defense by intentional enemy jamming or by lack of ability on the part of operating personnel to discriminate between radar anomalies and actual airborne weapons
   (b) Related to (a), interference with air defense by overloading communication lines from the air defense observation stations.
   (c) Possibility of a psychological offensive by the enemy timed with respect to an actual attack could conceivably seriously

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reduce the defense effort of the general public.

It is noted that these general conclusions as stated here do not specifically answer the needs presented in Appendix A. However, it is anticipated that comment on these points will be presented in a written statement from the scientific panel to AD/SI.

[DBS:gl] (typed 12 February 1953)

(28)

[redacted]

3 December 1952

MEMORANDUM FOR RECORD

SUBJECT: Flying Saucers

1. At 1100 yesterday morning I met with Dr. Julius A. Stratton, Executive Vice President and Provost of Massachusetts Institute of Technology and Dr. Max Millikan, Director of CENIS. I briefed them on the various new reports of sightings including the Limestone Base Case, the Florida Scout Master, the Utah Motion Pictures, etc. I also brought Dr. Stratton up to date on developments which had occurred since our previous discussion of the subject in August. Dr. Stratton reiterated his earlier position that this is a subject which must be investigated and he said that probably the best means of getting a thoroughly competent review of the problem would be through Project LINCOLN. He said, however, that in view of the delicate position in relation to Air Force, as a result of the "Summer Study Report", any acceptance of this project by LINCOLN must be based on Air Force concurrence or on an independent proposal from one of the other services. He said that Alfred Hill would be the best man to head the group. Assuming that it might prove impractical to place the Project at LINCOLN, we explored other possibilities including Princeton and Cal Tech. Dr. Stratton felt very strongly that Cal Tech would be the better of the two in view of the presence there of Robertson, Lauritson, Spitzer (on temporary duty from Princeton), Millikan's brother and others. Dr. Stratton asked particularly that we keep him informed of the progress that we make in having this problem investigated as he is personally very interested as well as fully aware of the potential danger and implications of the situation.

2. Following the meeting with Drs. Stratton and Millikan, I had lunch at the Faculty Club with Lloyd Berkner and Jerrold Zacharias and briefed them on the recent cases and our feelings regarding their implications. Berkner, while apparently not interested in taking a personal part, felt strongly that the saucer problem should be thoroughly investigated from a scientific point of view. Zacharias did not appear to be greatly interested in the problem and made only one suggestion, i.e. that Shirley Quimby of Columbia University be brought into the picture. Quimby took his physics degree at the same time as Zacharias; is now at Columbia University, having during the war been a Navy scientist working on ASW. Zacharias suggested Quimby because the latter is probably the most expert man in the country on magic and general chicanery.

3. My conclusion from these conversations is that it will probably be necessary to secure the full backing of DCI in order that a scientific review of this problem may be laid on. Without this backing, it

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b3

[redacted] P. G. STRONG

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1 - Chrono
1 - Daily

OSI/PGS:bxd

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[redacted]

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : Dr. Machle, OSI

DATE: 15 March 1949

FROM : Dr. Stone, OSI

SUBJECT: Flying Saucers

1. A rapid perusal of your documents leaves one confused and inclined to supineness.

2. The following considerations seem not to have been included in the survey:

a. No suggestion is noted that there is a possibility that many of the objects may be "free" meteorological sounding balloons.

b. If a tame "flying saucer" is to be involved, it is extremely unlikely that they be found over the U. S. because:

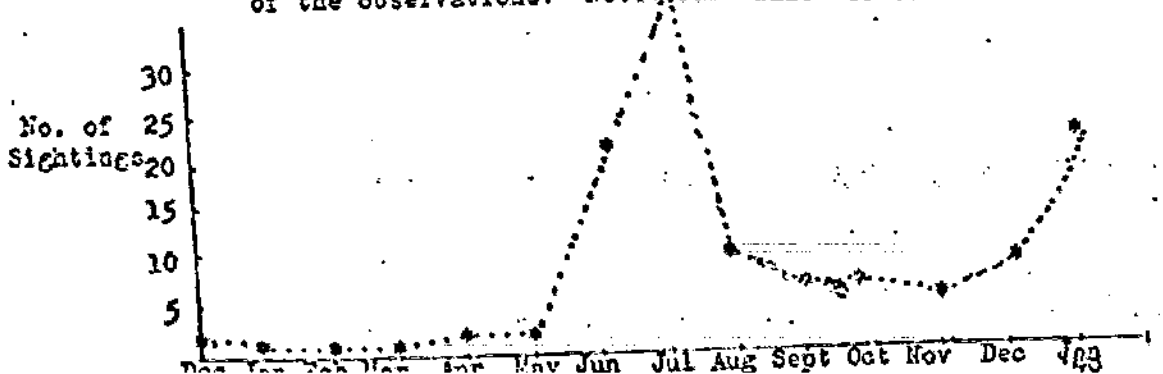
(1) U.S. developments would be closely coordinated with USAF or commercial designers.

(2) Foreign aircraft development would hardly be tested at such a range from home areas, even if fuel could be supplied.

(3) Guided aircraft at a range of several thousand miles are beyond any known capabilities, including ours.

c. What is the psychological probability that any object seen briefly against "zero" background will be circular, or oval, in appearance?

d. Has any one commented on the curious time distribution of the observations? Note chart below:



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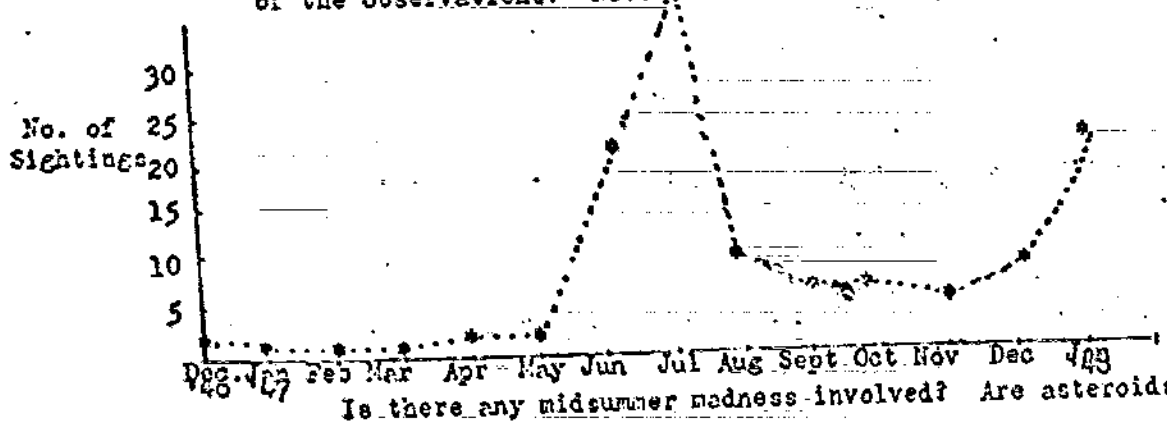

Is there any midsummer madness involved? Are asteroids prominent in that season? Etc., etc.

[redacted]

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(20)

[redacted]

[redacted]

Rec'd - 5

JUL 29 1952

MEMORANDUM FOR: Deputy Director/Intelligence

SUBJECT: Recent Sightings of Unexplained Objects

In the past several weeks a number of radar and visual sightings of unidentified aerial objects have been reported. Although this office has maintained a continuing review of such reputed sightings during the past three years, a special study group has been formed to review this subject to date. S/CI will participate in this study with S/CI and a report should be ready about 15 August.

RALPH L. CLARK
Acting Assistant Director
Scientific Intelligence

E-2

CSI:FCD:RLC/mtw (23July52)

Opns/CI - 3
AD/CI - 2

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OSI:FCD:RLC/mtw (23July52)

Opns/SI - 3
AD/SI - 2

[redacted] [redacted]

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[redacted]

DEC 2 1952

MEMORANDUM FOR: Director of Central Intelligence

THRU : Deputy Director for Intelligence

SUBJECT : Unidentified Flying Objects

1. On 20 August, the DCI, after a briefing by OSI on the above subject, directed the preparation of an NSCID for submission to the Council stating the need for investigation and directing agencies concerned to cooperate in such investigations.

2. In attempting to draft such a directive and the supporting staff studies, it became apparent to DD/I, Acting AD/SI and AD/IC that the problem was largely a research and development problem, and it was decided by DD/I to attempt to initiate action through R&DB. A conference was held between DI/USAF, Chairman of R&DB, DD/I, Acting AD/SI and AD/IC at which time it was decided that Dr. Whitman, Chairman of R&DB, would investigate the possibility of undertaking research and development studies through Air Force agencies.

3. On approximately 6 November, we were advised by Chairman, R&DB, that inquiries in the Air Staff did not disclose "undue concern" over this matter, but that it had been referred to the Air Defense Command for consideration. No further word has been received from R&DB.

4. Recent reports reaching CIA indicated that further action was desirable and another briefing by the cognizant A-2 and ATIC personnel was held on 25 November. At this time, the reports of incidents convince us that there is something going on that must have immediate attention. The details of some of these incidents have been discussed by AD/SI with DCSI. Sightings of unexplained objects at great altitudes and travelling at high speeds in the vicinity of major U.S. defense installations are of such nature that they are not attributable to natural phenomena or known types of aerial vehicles.

5. OSI is proceeding to the establishment of a consulting group of sufficient competence and stature to review this matter and convince the responsible authorities in the community that immediate research and development on this subject must be undertaken. This can be done expeditiously under the aegis of CSMIS.

[redacted]

6. Attached hereto is a draft memorandum to the NSC and a simple draft NSC Directive establishing this matter as a priority project throughout the intelligence and the defense research and development community.

[H.M. Chadwell] B-3

[H. MARSHALL CHADWELL]
Assistant Director
Scientific Intelligence

Attachments:
Draft memo to NSC with
draft Directive

Distribution:
Orig. & 1 - forward
1 - DD/I
2 - AD/SI

[redacted]

ER - 3 - 2903

MEMORANDUM TO: The Executive Secretary
National Security Council

SUBJECT: Unidentified Flying Objects (Flying Saucers)

1. The Central Intelligence Agency has reviewed the current situation concerning unidentified flying objects which have caused extensive speculation in the press and have been the subject of concern to Government organizations. The Air Force, within the limitations of manpower which could be devoted to the subject, has thus far carried the full responsibility for investigating and analyzing individual reports of sightings. Since 1947, approximately 2000 official reports of sightings have been received and, of these, about 20% are as yet unexplained.

2. It is my view that this situation has possible implications for our national security which transcend the interests of a single service. A broader, coordinated effort should be initiated to develop a firm scientific understanding of the several phenomena which apparently are involved in these reports, and to assure ourselves that the incidents will not hamper our present efforts in the Cold War or confuse our early warning system in case of an attack.

3. I therefore recommend that this Agency and the agencies of the Department of Defense be directed to formulate and carry out a program of intelligence and research activities required to solve the problem of instant positive identification of unidentified flying objects. A draft of an appropriate directive is attached.

Walter B. Smith
Director

Enclosure

[redacted]

[redacted]

DRAFT

NATIONAL SECURITY COUNCIL DIRECTIVE

SUBJECT: Unidentified flying objects

Pursuant to the provisions of Section 102 of the National Security Act of 1947 and for the purposes enunciated in Paragraphs d and e thereof, the National Security Council hereby authorizes and directs that:

1. The Director of Central Intelligence shall formulate and carry out a program of intelligence and research activities as required to solve the problem of instant positive identification of unidentified flying objects.

2. Upon call of the Director of Central Intelligence, Government departments and agencies shall provide assistance in this program of intelligence and research to the extent of their capacity provided, however, that the DCI shall avoid duplication of activities presently directed toward the solution of this problem.

3. This effort shall be coordinated with the military services and the Research and Development Board of the Department of Defense, with the Psychological Strategy Board and other Government agencies as appropriate.

4. The Director of Central Intelligence shall disseminate information concerning the program of intelligence and research activities in this field to the various departments and agencies which have authorized interest therein.

[redacted]

[redacted]

[redacted]

6

CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

COUNTRY Netherlands

REPORT NO. 00-B-55478

SUBJECT [redacted]
Flying Saucers

PLACE ACQUIRED (BY SOURCE) [redacted]

DATE ACQUIRED (BY SOURCE) [redacted]

DATE (OF INFO.) [redacted]

[redacted]

THIS IS UNEVALUATED INFORMATION

RESPONSIVE TO	
1	2
[redacted]	

DATE DISTR. 2 SEP 52

NO. OF PAGES 1

NO. OF ENCLS.

SUPP. TO REPORT NO.

SOURCE

1.

2.

3.

4. "On July 24 at about 6:30 a big formation of 'Flying Saucers' was seen above Arnhem. Mrs. [redacted] and her four children, two sons of 16 and 13 and two daughters of 12 and 10, saw them coming in 'V' formation from the North and they could see them for several minutes before they suddenly disappeared to the South."

- end -

LACE ACQUIRED BY SOURCE) [redacted]

ATE ACQUIRED BY SOURCE) [redacted]

ATE (OF INFO.) [redacted]

[redacted]

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- end -

APPROVED FOR RELEASE
DATE 6 Nov 78

[redacted]

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[redacted]

D- #46

1447 [redacted]

CLASSIFICATION [redacted]

CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

REPORT NO. SO 57499x

CD NO.

COUNTRY	USSR (Uzbek SSR)	DATE DISTR.	11 Feb. 1952
SUBJECT	Light Phenomena East of Tashkent	NO. OF PAGES	1
PLACE ACQUIRED	[redacted]	NO. OF ENCLS. (LISTED BELOW)	1
DATE OF INFO.	May - September 1947	SUPPLEMENT TO REPORT NO.	SO-49149x

REFERENCE COPY

DO NOT CIRCULATE

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted] second interrogation. **

1. During the period from May to September 1947 three light phenomena happening at intervals of about 15 minutes were seen almost every night between 9 and 10 p.m. local time. The phenomena were watched from the P.W camp in Palchta Aral, about 50 km southwest of Tashkent (41°18'N/69°15'E), Uzbek S.S.R., in an east-southeasterly direction.

2. A darkred ball of fire was seen first; after about six seconds it reached the apex of a long-drawn out trajectory. During this time the ball had developed a trail of fire. Its color, which was bright red at the apex point, changed in color from pale green to white. Smoke trails, noises, or detonations were not noticed.

3. The distance of the trajectory from the point of observation was estimated at 60 to 80 km. * The trajectory ran approximately from southwest to northeast; its length to the apex, which was from 5,000 to 12,000 meters high, was estimated at about 80 km. At the apex the ball of fire seemed about one-fifth the diameter of the full moon.

* Field Comment. The measurements stated with respect to the trajectory must be received with reserve. It must be considered that neither the discharge nor the noise developed by the projectile were heard. For trajectory of phenomena, see annex.

** Washington Comment: This is a reinterrogation of the informant of SO-49149x.

1 Annex: One sketch showing trajectory.

PLACE ACQUIRED [redacted]

REFERENCE COPY

NO. OF ENCLS. (LISTED BELOW)

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APPROVED FOR RELEASE
DATE 6 Nov 78

CLASSIFICATION [redacted]

STATE		NAVY	X	NSRB		DISTRIBUTION						
ARMY	X	AIR	X	FBI								

ARCHIVAL RECORD
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AGENCY ARCHIVES, [redacted]

#545 [redacted]

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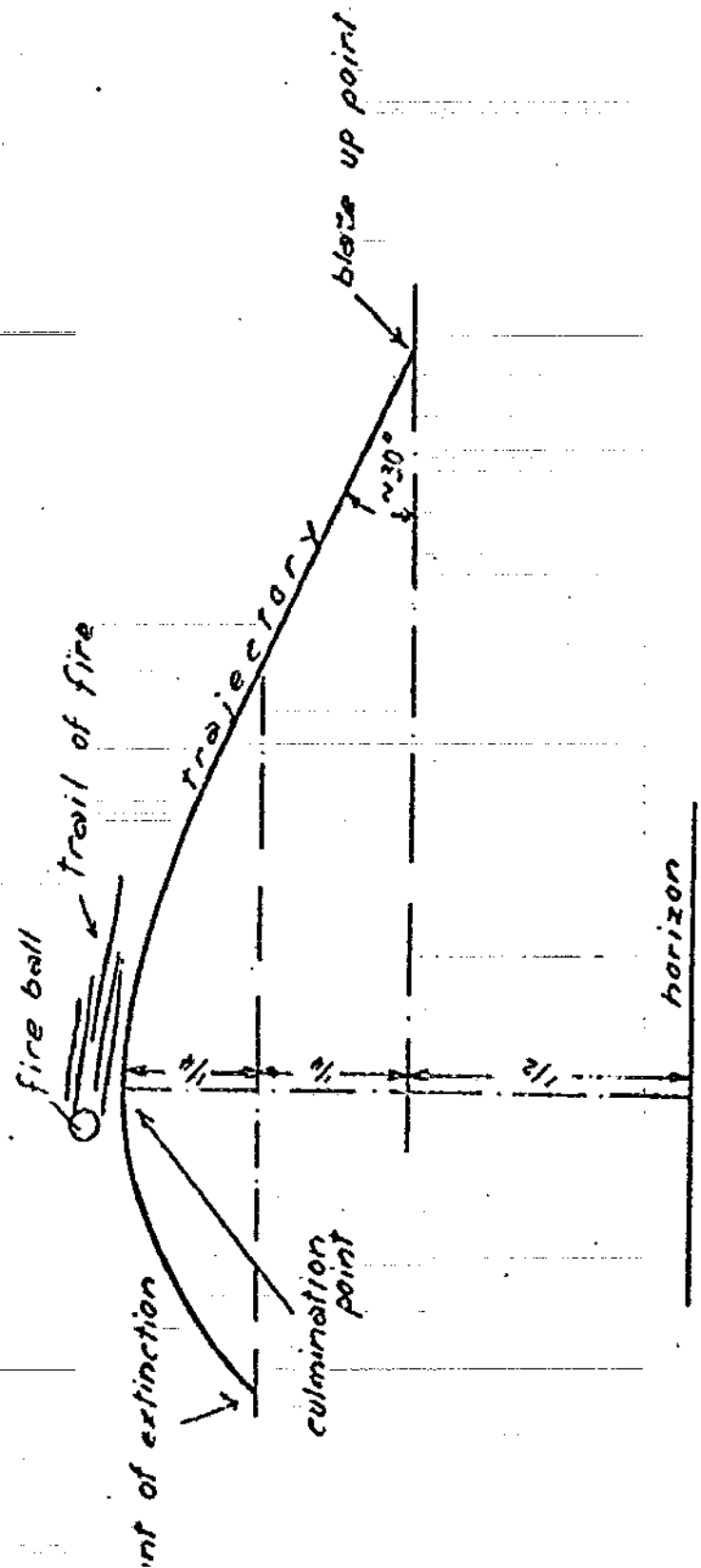
Trajectory of Fire Balls Noticed East of Tashkent



ARCHIVAL RECORD
PLEASE RETURN TO
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[redacted]

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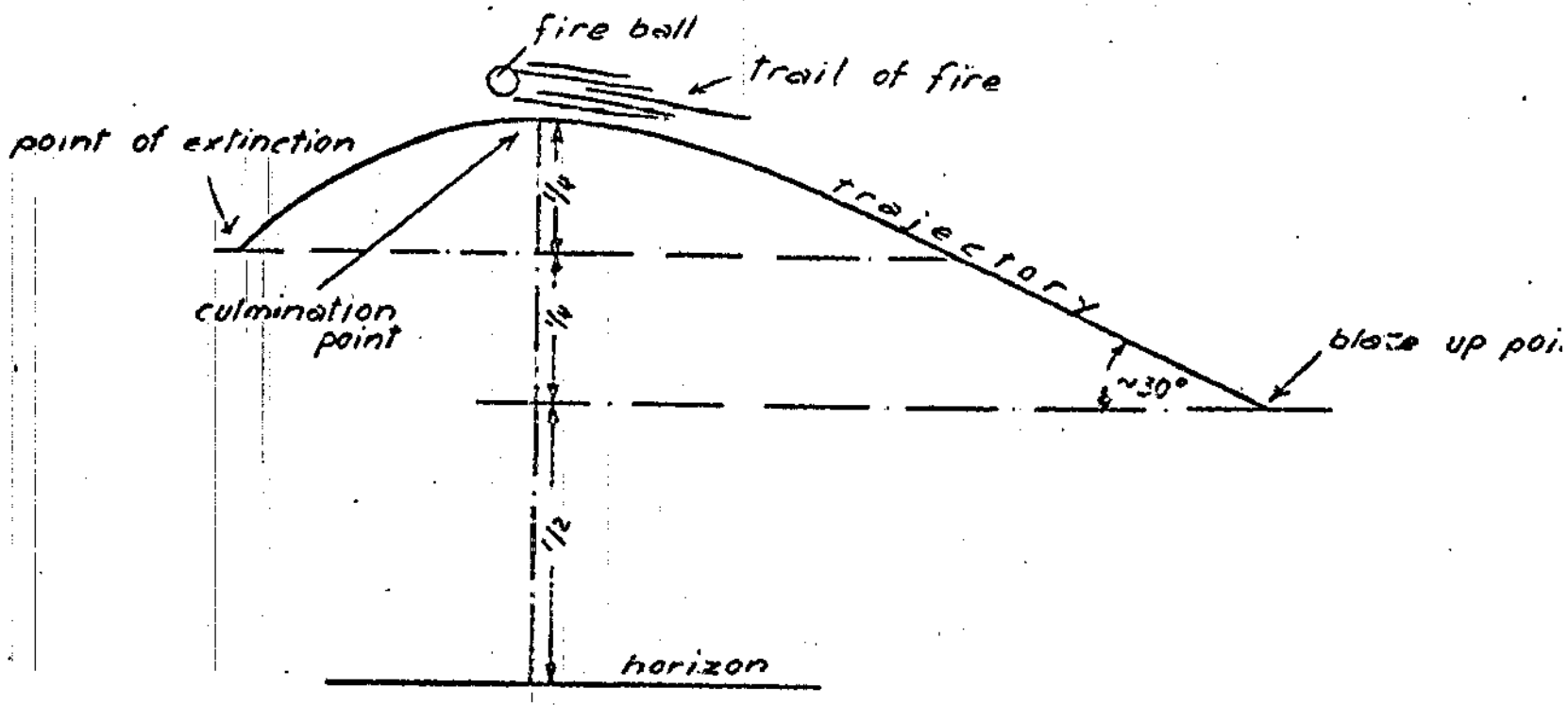

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[redacted]

ER - 3 - 2872

OCT 2 1952

MEMORANDUM TO: Director of Central Intelligence

THROUGH: Deputy Director (Intelligence)

FROM: Assistant Director, Office of Scientific Intelligence

SUBJECT: Flying Saucers

1. PROBLEM—To determine: (a) Whether or not there are national security implications in the problem of "unidentified flying objects"; (b) whether or not adequate study and research is currently being directed to this problem in its relation to such national security implications; and (c) what further investigation and research should be instituted, by whom, and under what aegis.

2. FACTS AND DISCUSSION—OSI has investigated the work currently being performed on "flying saucers" and found that the Air Technical Intelligence Center, DI, USAF, Wright-Patterson Air Force Base, is the only group devoting appreciable effort and study to this subject, that ATIC is concentrating on a case-by-case explanation of each report, and that this effort is not adequate to correlate, evaluate, and resolve the situation on an overall basis. The current problem is discussed in detail in TAB A.

3. CONCLUSIONS—"Flying saucers" pose two elements of danger which have national security implications. The first involves mass psychological considerations and the second concerns the vulnerability of the United States to air attack. Both factors are amplified in TAB A.

4. ACTION RECOMMENDED—(a) That the Director of Central Intelligence advise the National Security Council of the implications of the "flying saucer" problem and request that research be initiated. TAB B is a draft memorandum to the NSC, for the DCI's signature. (b) That the DCI discuss this subject with the Psychological Strategy Board. A memorandum to the Director, Psychological Strategy Board, is attached for signature as TAB C. (c) That CIA, with the cooperation of PSB and other interested departments and agencies, develop and recommend for adoption by the NSC a

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THROUGH: Deputy Director (Intelligence)

FROM: Assistant Director, Office of Scientific Intelligence

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1. PROBLEM—To determine: (a) Whether or not there are national security implications in the problem of "unidentified flying objects"; (b) whether or not adequate study and research is currently being directed to this problem in its relation to such national security implications; and (c) what further investigation and research should be instituted, by whom, and under what aegis.

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3. CONCLUSIONS—"Flying saucers" pose two elements of danger which have national security implications. The first involves mass psychological considerations and the second concerns the vulnerability of the United States to air attack. Both factors are amplified in TAB A.

4. ACTION RECOMMENDED—(a) That the Director of Central Intelligence advise the National Security Council of the implications of the "flying saucer" problem and request that research be initiated. TAB B is a draft memorandum to the NSC, for the DCI's signature. (b) That the DCI discuss this subject with the Psychological Strategy Board. A memorandum to the Director, Psychological Strategy Board, is attached for signature as TAB C. (c) That CIA, with the cooperation of PSB and other interested departments and agencies, develop and recommend for adoption by the NSC a

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policy of public information which will minimize concern and possible panic resulting from the numerous sightings of unidentified objects.

H. Marshall Chadwell

H. MARSHALL CHADWELL
Assistant Director
Scientific Intelligence

ANNEXES:

TAB A—Memorandum to DCI, through DDI, Subject: Flying Saucers.
TAB B—Letter to National Security Council with enclosure.
TAB C—Memo to Director, Psychological Strategy Board with enclosure.

CONCURRENCES:

Date:

LOFTUS E. BECKER
Deputy Director/Intelligence

ACTION BY APPROVING AUTHORITY:

Date:

Approved (disapproved):

WALTER B. SMITH
Director

[redacted]

[redacted]

Executive Registry
52-2122

SEP 24 1952

MEMORANDUM FOR: Director of Central Intelligence

THROUGH : Deputy Director (Intelligence)

SUBJECT : Flying Saucers

1. Recently an inquiry was conducted by the Office of Scientific Intelligence to determine whether there are national security implications in the problem of "unidentified flying objects," i.e., flying saucers; whether adequate study and research is currently being directed to this problem in its relation to such national security implications; and what further investigation and research should be instituted, by whom, and under what aegis.

2. It was found that the only unit of Government currently studying the problem is the Directorate of Intelligence, USAF, which has charged the Air Technical Intelligence Center (ATIC) with responsibility for investigating the reports of sightings. At ATIC there is a group of three officers and two secretaries to which come, through official channels, all reports of sightings. This group conducts investigation of the reports, consulting as required with other Air Force and civilian technical personnel. A world-wide reporting system has been instituted and major Air Force Bases have been ordered to make interceptions of unidentified flying objects. The research is being conducted on a case basis and is designed to provide a satisfactory explanation of each individual sighting. ATIC has concluded an arrangement with Battelle Memorial Institute for the latter to establish a machine indexing system for official reports of sightings.

3. Since 1947, ATIC has received approximately 1500 official reports of sightings plus an enormous volume of letters, phone calls, and press reports. During July 1952 alone, official reports totaled 250. Of the 1500 reports, Air Force carries 20 percent as unexplained and of those received from January through July 1952 it carries 28 percent unexplained.

4. In its inquiry into this problem, a team from CIA's Office of Scientific Intelligence consulted with a representative of Air Force Special Studies Group; discussed the problem with those in charge of the Air Force Project at Wright-Patterson Air Force Base; reviewed a considerable volume of intelligence reports; checked the Soviet press and broadcast indices; and conferred with three CIA consultants, who have broad knowledge of the technical areas concerned.

[redacted]

5. It was found that the ATIC study is probably valid if the purpose is limited to a case-by-case explanation. However, that study does not solve the more fundamental aspects of the problem. These aspects are to determine definitely the nature of the various phenomena which are causing these sightings, and to discover means by which these causes, and their visual or electronic effects, may be identified immediately. The CIA consultants stated that these solutions would probably be found on the margins or just beyond the frontiers of our present knowledge in the fields of atmospheric, ionospheric, and extraterrestrial phenomena, with the added possibility that the present dispersal of nuclear waste products might also be a factor. They recommended that a study group be formed to perform three functions:

a. analyze and systematize the factors which constitute the fundamental problem;

b. determine the fields of fundamental science which must be investigated in order to reach an understanding of the phenomena involved; and

c. make recommendations for the initiation of appropriate research.

Dr. Julius A. Stratton, Vice President of the Massachusetts Institute of Technology, has indicated to CIA that such a group could be constituted at that Institute. Similarly, Project Lincoln, the Air Force's air defense project at MIT, could be charged with some of these responsibilities.

6. The flying saucer situation contains two elements of danger which, in a situation of international tension, have national security implications. These are:

a. Psychological - With world-wide sightings reported, it was found that, up to the time of the investigation, there had been in the Soviet press no report or comment, even satirical, on flying saucers, though Gromyko had made one humorous mention of the subject. With a State-controlled press, this could result only from an official policy decision. The question, therefore, arises as to whether or not these sightings:

(1) could be controlled,

(2) could be predicted, and

(3) could be used from a psychological warfare point of view, either offensively or defensively.

The public concern with the phenomena, which is reflected both in the United States press and in the pressure of inquiry upon the Air Force, indicates that a fair proportion of our population is mentally conditioned to the acceptance of the incredible. In this fact lies the potential for the touching-off of mass hysteria and panic.

b. Air Vulnerability - The United States Air Warning System will undoubtedly always depend upon a combination of radar screening and visual observation. The U.S.S.R. is credited with the present capability of delivering an air attack against the United States, yet at any given moment now, there may be current a dozen official unidentified sightings plus many unofficial ones. At any moment of attack, we are now in a position where we cannot, on an instant basis, distinguish hardware from phantom, and as tension mounts we will run the increasing risk of false alerts and the even greater danger of falsely identifying the real as phantom.

7. Both of these problems are primarily operational in nature but each contains readily apparent intelligence factors.

8. From an operational point of view, three actions are required:

a. Immediate steps should be taken to improve identification of both visual and electronic phantom so that, in the event of an attack, instant and positive identification of enemy planes or missiles can be made.

b. A study should be instituted to determine what, if any, utilization could be made of these phenomena by United States psychological warfare planners and what, if any, defenses should be planned in anticipation of Soviet attempts to utilize them.

c. In order to minimize risk of panic, a national policy should be established as to what should be told the public regarding the phenomena.

9. Other intelligence problems which require determination are:

a. The present level of Soviet knowledge regarding these phenomena.

b. Possible Soviet intentions and capabilities to utilize these phenomena to the detriment of United States security interests.

c. The reasons for silence in the Soviet press regarding flying saucers.

10. Additional research, differing in character and emphasis from that presently being performed by Air Force, will be required to meet the specific needs of both operations and intelligence. Intelligence responsibilities in this field as regards both collection and analysis can be discharged with maximum effectiveness only after much more is known regarding the exact nature of these phenomena.

11. I consider this problem to be of such importance that it should be brought to the attention of the National Security Council, in order that a community-wide coordinated effort towards its solution may be initiated.

H. MARSHALL CHADWELL
Assistant Director
Scientific Intelligence

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INFORMAL

Deputy Assistant Director/SI 1 August 1952

Acting Chief, Weapons & Equipment Division

"Flying Saucers"

1. Pursuant to your request for overall evaluation of "flying saucers" and associated reports, the following is pertinent:

a. Of 1000 to 2000 such reports received by ATIC, a large percentage are clearly "phoney". An equally large percentage can be satisfactorily explained as known flights of currently operational U.S. equipment (aircraft, weather balloons, etc.) and many others are undoubtedly of natural phenomena (meteorites, clouds, aberration of light caused by thermal inversion or reflections, etc.).

b. Less than 100 reasonably credible reports remain "unexplainable" at this time; regarding these reports, there is no pattern of specific sizes, configurations, characteristics, performance, or location. The sources of these reports are generally no more or less credible than the sources of the other categories. It is probable that if complete information were available for presently "unexplainable" reports, they, too, could be evaluated into categories as indicated in "a" above.

2. Notwithstanding the foregoing tentative facts, so long as a series of reports remains "unexplainable" (interplanetary aspects and alien origin not being thoroughly excluded from consideration) caution requires that intelligence continue coverage of the subject.

3. It is recommended that CIA surveillance of subject matter, in coordination with proper authorities of primary operational concern at ATIC, be continued. It is strongly urged, however, that no indication of CIA interest or concern reach the press or public, in view of their probable alarmist tendencies to accept such interest as "confirmatory" of the soundness of "unpublished facts" in the hands of the U. S. Government.

4. The undersigned has arranged with the Commanding Officer of the Air Technical Intelligence Center at Wright-Patterson Air Force Base, Ohio, for a thorough and comprehensive briefing related to this subject on 8 August 1952. Subsequent to obtaining full details, a detailed analysis will be prepared and forwarded.

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JUL 29 1952

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DD/I

AD/SI

DAD/SI

P. G. STRONG

F. C. DURANT

H. CHANNING

M. J. CARDER

J. B. QUIGLEY

b-3

[redacted]

[redacted]

(22)

release

Minutes
of
Branch Chief's Meeting of
11 August 1952

(b)(3) The meeting was at 0835 in Mr. Steele's office with a quorum consisting of Mr. Sullivan, Chairman, Mr. Ahern, Mr. Barnard, Mr. Engle, Dr. Fairchild, Dr. Fondiller, ~~Lt.~~ Mr. Gordon, Dr. Harkin and Mr. Rajala.

Mr. Sullivan opened the meeting by saying that a project is to be started in the P&E Division on "Flying Saucers." It ~~was~~ had been suggested by Dr. Odarenko that this project be set up to maintain ~~the~~ a file ~~to establish outside contacts~~ on such matters ~~and to build up the up-to-date knowledge of the available parts~~ to permit the Division and office to take a stand and to formulate an opinion as might be required.

ATIC has the job of finding out about ~~these~~ "flying saucers" and keeping records. CIA is responsible for getting information for CIA. All members of the P&E Division are to look into this project and see what they can contribute to this problem. Each Branch ~~was~~ appointed a representative:

(b)(3) Mr. Elby for Physics, and Mr. Barnard for Electronics and Communications.

~~Lt.~~ Mr. Ray Gordon is Project Officer for the P&E Division. ~~He~~ Mr. Sullivan is to find out who is handling the project in CRD, ~~and~~ Mr. Gordon is to get a past history of what has been found out in the field of meteorology, radar and the other sciences. He should secure reports from ATIC and bring us up-to-date on what has been done.

Mr. Steele wanted to know if P&E should be in the position to answer requests coming to us. Since ATIC has a standard form for reference purposes, requests would be answered through contact with them. Air Force has local agents to look into any questions coming to them. ATIC has ~~a~~ record, it was believed, to cover the whole world.

(b)(3)

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(b)(3)

It was stated that Mr. S. Possony, who may be a special officer in

b-3

A-2, may be able to contribute something to this problem. Mr. Sullivan (b)(3) gave a summary of the 5 years that Mr. Strong spent ~~at~~ the Southwest Mal. b-*

There was no specific problem to be discussed at this time, so ~~The~~ meeting was adjourned.

XXXXXXXXXXX

Distribution:

* where so many "flying saucers" have been reported of late. Although Mr. Strong knew many people there and traveled the area extensively, no unusual phenomena were ever mentioned or seen.

[redacted]

22 August 1952

MEMORANDUM FOR: Deputy Director (Intelligence)

SUBJECT: USSR and Satellite Mention of Flying Saucers

1. A search of [redacted] files has so far produced no factual evidence that subject has been mentioned in the Soviet Satellite press within the past two years. It is believed that a derisive comment was made in a Russian newspaper in 1948 on this subject but so far the article has not been found.

2. FBID has one broadcast on this subject, dated 10 June 1951, which is quoted below:

> Summary - In what appears to be Moscow's first mention of Flying Saucers "Listener's Mailbag" answers questions on the subject to the effect that "The Chief of Nuclear Physics in the US Naval Research Bureau" explained them recently as used for stratospheric studies. US Government circles know all along of the harmless nature of these objects, but if they refrained from denying "false reports", the purpose behind such tactics was to fan war hysteria in the country."

3. A State Department cable recently received from Budapest quotes the August 14th copy of Szabad Nep as follows:

> "Flying Saucer stories are another American attempt to fan war hysteria." Radar detection of saucers is quoted in the article and it comments on the ridiculous aspects of the source of the mystery. The article concludes that it is part of American rulers propaganda to prove the Western countries are threatening.

4. FBID has been requested to alert the field stations to any mention of Flying Saucers by Iron Curtain countries.

APPROVED FOR RELEASE
DATE 24 Nov 78

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[redacted] Assistant Director for Operations

14 October 1952

MEMORANDUM FOR RECORD

SUBJECT: Flying Saucers Problem

1. At an informal discussion between DD/I, AD/IC, and Acting AD/SI, it was agreed that the saucer problem should be attacked by getting together the responsible individuals in the community to work out a program of research and intelligence which can then be implemented by them directly. The agreed program can then be forwarded to the DCI and possibly the Secretary of Defense and the balance of the National Security Council as an established program rather than waiting for a great deal of formal, high level paper pushing before taking action.

2. DD/I directed Acting AD/SI to contact Dr. Whitman and Gen. Samford to arrange an appropriate time at which this problem can be reviewed. Acting AD SI to call on Dr. Whitman and review the background of our study before the meeting.

3. Subsequently, Acting AD/SI was advised that the most convenient days for this meeting would be Monday or Tuesday, 20 or 21 October. Those present would be:

Dr. Walter G. Whitman, Chairman, RDB
Gen. John A. Samford, Director of Intelligence, USAF
Mr. Loftus E. Becker, DD/I
Mr. James Q. Reber, AD/IC

plus others deemed appropriate by the principals.

Ralph L. Clark
RALPH L. CLARK

CC: Chief, Opns/SI - 1
Chief, SAD/SI - 1
Chief, Prod/SI - 1

22 Aug request
14

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RALPH L. CLARK

CC: Chief, Opns/SI - 1
Chief, SAD/SI - 1
Chief, Prod/SI - 1

22 Aug request
14

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CLASSIFICATION [redacted]

CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

REPORT NO. SO DB-27143

CD NO.

COUNTRY	Chile/Germany	DATE DISTR.	31 July 1950
SUBJECT	German Scientist's Article on "Flying Discs"	NO. OF PAGES	1
PLACE ACQUIRED	[redacted] Return to CIA Library	NO. OF ENCLS. (LISTED BELOW)	1 [redacted]
DATE OF INFO.	Prior to mid-1950	SUPPLEMENT TO REPORT NO.	

[redacted]

* Documentary

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

Attached for your information is a copy, in translation, of an article submitted by Dr. Eduard Ludwig for publication in Condor, a German language magazine published in Chile. The article is entitled "The Mystery of the 'Flying Discs,' a contribution to its possible explanation".

[redacted]

Good report but lousy translation

The significant conclusion drawn by the scientist in this report is that the old handicap of "boundary layer" and a moving object or

PLACE ACQUIRED [redacted] Return to CIA Library

NO. OF ENCLS. (LISTED BELOW) 1 [redacted]

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CLASSIFICATION [redacted]

STATE		NAVY	X	NSRB		DISTRIBUTION							
ARMY	X	AIR	X	FBI									

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D-(#1)

6 Nov 78

THE MYSTERY OF THE "FLYING DISCS"

A contribution to its possible explanation.

By Dr. Eduard Ludwig, Santiago, Chile.
Av. Cristobal Colon 1916

Though the continuously reappearing reports on the appearance of new, mysterious aircraft of unknown construction should be considered with severe skepticism as the result of a sort of mass-hypnosis, nevertheless some of the detailed and coinciding accounts of technically trained observers deserve attention and permit one to draw conclusions as to the probable classification of these new aircraft.

Since so far the observations have been made mainly in the dark, which means that only the luminous parts of the craft are visible, every report brings the description of shining discs or circles. If one should discard the absurd conjecture that these aircraft originate from beyond this earth, then it is easy to arrive at the conclusion that the shining circles bear a relation to the exhaust of a rotary gas-turbine. The possibility exists that the rotor of a turbine is used at the same time as a stabilizing top and is therefore fixed vertically to the level of the other turbine rings, which in the darkness produces the effect of the "rings of Saturn".

These observations remind me of a completely new type of aircraft which was developed during the years I worked in the research plant of Professor Junkers in Dessau, which was attached to the airplane factories known all over the world. I do not know how many of my co-workers are still alive today, but I do know that Dr. Bock, Professor at the Technical High School of Berlin, and who was at that time my chief and friend of many years, has been deported to the Soviet Union.

The name of Professor Bock was never widely known due to his modest character, but he may have been the greatest genius of German airplane theoretics, and later, in view of his extraordinary faculties, he was named head constructor of the Ministry of German Airways and Director of the German Institute of Airways Research in Berlin-Adlershof.

In order to explain to a wider circle of readers the basic idea of the new aircraft, I should like to submit first the following explanations:

The first physicist and mathematician who considered the new Science of Aerodynamics after the commencement of purely experimental developments of aircraft construction was the Russian Professor Jukovski of Moscow. Before the first World War and together with my esteemed teacher, Dr. Kutta from the Technical High School of Stuttgart, Germany, he developed the theory of airplane-wingbeam. Professor Kutta succeeded in establishing the famous "Differential equation of the boundary stratum" which for the first time throws light on the processes in current particles and which in any case explains for the first time theoretically the reason why a planewing can bear a load while moving forward through the air. Since then the "Kutta-Jukovski Theory of Airplane-wingbeam" has been the foundation of all aerodynamics. As already mentioned, the core of this work is the so-called "boundary ~~stratum~~", which consists of the thin layer of air in which the transition of Velocity Zero to the Velocity of the Moving Object takes place. If the object is streamlined then the boundary stratum will endeavor not to sever, no whirlwinds will occur, and therefore no loss of energy will take place in that stratum. Since nature always functions most economically, it always tries to avoid loss of energy,

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The logical conclusions based on these theoretic discoveries were obvious: already in the year 1915 Professor H. C. Bauman, also from the Technical High School of Stuttgart, received a patent on the "Splitwing" through which the artificial interruption of the course of the current, the tearing of the boundary stratum and the consequent braking and diminishing of the landing speed would be attained. This

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procedure was later applied to a great extent to the fighter plane Muster Ju. 88 under the name of "dive-brake". This patent had to be handed to the English factory Handley-Page after World War I, which explains that the name of "Handley-Page Splitwing" is more widely known.

However, developments proceeded. It was principally the Aerodynamic Experimental Institute of the Gottingen University, directed by the renowned Professors Prandtl and Betz, and Constructor Flettner, which drew its conclusions from the theory of the airplane-wing-beam. Flettner proved that the conditions of a rotating object are similar to those which appear in a "translatorischen" movement. Thus evolved the "Flettner-Rotor".

Professor Junkers, head of the well known airplane works in Dessau, who in the year 1915 received his pathbreaking patent on the one-piece metal wing without junctures, ordered a research group, which was headed by Professor Dr. Bock, and to which I had the honor to belong, to investigate to what extent the uplift of a wing could be increased through the attachment of a Flettner-Rotor in the shape of a cylinder turning at great speed. The cylinder was two-thirds of the length of the wing and was installed in the nose of the wing, where it could best be adapted to the wing's profile. To assist us with aerodynamic problems, the Gottingen University sent us Professor Prandtl. The experiments turned out to be extremely difficult and involved many casualties. The purely technical question of the speedy uplift of a long cylinder of light construction could not be solved at that time. Inexplicable vibrations and axle breakages occurred time after time which Professor Junkers ordered us to investigate, and with which we were occupied for months. Not less than four men, all experienced and tried pilots of the first World War and outstanding engineers, died in these experiments. It was clear to us that only a gas-turbine could produce the direct uplift of the cylinder. However, since meanwhile more pressing problems awaited solution, experiments with this type of aircraft were interrupted.

Meanwhile the Aerodynamic Experimental Institute of Gottingen made new and enlightening discoveries. Professor Betz found that supersonic speeds, such as are produced by quickly rotating propellers, created entirely new conditions. This investigation, however, needed the furnishing of a wind tunnel for supersonic speeds which could only be built many years later, and which after the war was forwarded to the United States where it greatly amazed all scientists.

Now light was shed on many things. It was found that the tearing of the boundary stratum at supersonic speeds involved much greater resistance, so that an object with full atmospheric pressure practically "hangs" from the upper layer of air, and theoretically experiences there the same uplift as an object of the same surface in the water. The converting of the revelations found in research into reality, however, needed the solution of the starting force through a gas-turbine or another equivalent machine or instrument.

Many heretofore unexplained phenomena now found rapidly an explanation. For example it had often been observed that the range of quickly rotating missiles ("Drallwirkung") was much greater than could be explained according to the laws of ballistics. Paradoxical explanations were sought for this such as that the air resistance decreases with growing speeds. Today we know that these quickly rotating missiles "swim" in the surrounding layers of air and therefore lose part of their weight. Full clarification was brought about only with supersonic speeds, which were obtained in the experiments with rockets (V-2) and were arrived at by flights of many hundreds and thousands of kilometers, and which can only be explained by the way in which these missiles literally "hang" in the air. The surprise of the specialized scientists the world over at the astounding results of the German V-2 was not less than that which is produced today by the appearance of the mysterious

from the theory of the airplane-wing-beam. Flettner proved that the conditions of a rotating object are similar to those which appear in a "translatorischen" movement. Thus evolved the "Flettner-Rotor".

Professor Junkers, head of the well known airplane works in Dessau, who in the year 1915 received his pathbreaking patent on the one-piece metal wing without junctures, ordered a research group, which was headed by Professor Dr. Bock, and to which I had the honor to belong, to investigate to what extent the uplift of a wing could be increased through the attachment of a Flettner-Rotor in the shape of a cylinder turning at great speed. The cylinder was two-thirds of the length of the wing and was installed in the nose of the wing, where it could best be adapted to the wing's profile. To assist us with aerodynamic problems, the Gottingen University sent us Professor Prandtl. The experiments turned out to be extremely difficult and involved many casualties. The purely technical question of the speedy uplift of a long cylinder of light construction could not be solved at that time. Inexplicable vibrations and axle breakages occurred time after time which Professor Junkers ordered us to investigate, and with which we were occupied for months. Not less than four men, all experienced and tried pilots of the first World War and outstanding engineers, died in these experiments. It was clear to us that only a gas-turbine could produce the direct uplift of the cylinder. However, since meanwhile more pressing problems awaited solution, experiments with this type of aircraft were interrupted.

Meanwhile the Aerodynamic Experimental Institute of Gottingen made new and enlightening discoveries. Professor Betz found that supersonic speeds, such as are produced by quickly rotating propellers, created entirely new conditions. This investigation, however, needed the furnishing of a wind tunnel for supersonic speeds which could only be built many years later, and which after the war was forwarded to the United States where it greatly amazed all scientists.

Now light was shed on many things. It was found that the tearing of the boundary stratum at supersonic speeds involved much greater resistance, so that an object with full atmospheric pressure practically "hangs" from the upper layer of air, and theoretically experiences there the same uplift as an object of the same surface in the water. The converting of the revelations found in research into reality, however, needed the solution of the starting force through a gas-turbine or another equivalent machine or instrument.

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In the same way in which the ingenious discernment of Professor Junkers pointed the way for airplane construction for the whole world, thus also may his idea of attaching Flettner Rotors have a revolutionary effect. Airplanes of this type must have such an enormous carrying capacity as to be practically comparable to amphibious planes of the same size. The lack of uplift produced by the Flettner Rotors can easily be achieved through the oblique position of the entire airplane

ARCHIVES RECORD
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with a positive starting angle in connection with the enormously high starting speed. The attaching of speedily rotating tops assures side stability. There is also the possibility of attaching horizontal auxiliary propellers of the helicopter type. And what about the question of the starting force? The safety of such an aircraft stands and falls on the starting force of the cylinders, and only too well do I remember the casualties inflicted by the lack of it. As I mentioned before, only the development of a gas-turbine can bring the solution, since it consists only of rotating parts and works with the dependability of a steam engine.

There is only one more question to be answered: could such an aircraft carry enough fuel for world-wide journeys? This question is easily answered in the affirmative. In the first place such an aircraft has a tremendous carrying capacity, as we have already seen; and in the second place chemical research has made astounding developments in this respect. We know today—quite apart from atomic energy—carriers of energy of unsuspected power and duration. (It should be remembered that the missiles of German anti-tank weapons were coated with chemical substances which melted up to 20 cmts. of steel plates within fractions of a second.) Energy carriers of this type, if applicable to a gas-turbine, should make an action-radius possible which far surpasses that of gasoline engines.

The future will show whether the "Flying Discs" are only the products of imagination or whether they are the results of a far-advanced German science which, possibly, as well as the nearly finished atomic bombs, may have fallen into the hands of the Russians.

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(24)

MEMORANDUM FOR: Director of Central Intelligence

THRU : Deputy Director (Intelligence)

SUBJECT : Flying Saucers

1. PROBLEM

To determine:

a. Whether there are national security implications in the problem of "unidentified flying objects" i.e. flying saucers;

b. Whether adequate study and research is currently being directed to this problem in its relation to such national security implications; and

c. What further investigation and research should be instituted, by whom, and under what aegis.

2. FACTS BEARING ON THE PROBLEM

a. OSI has investigated the work currently being performed on flying saucers and has found that:

(1) The only unit of government currently studying the problem is the Directorate of Intelligence, USAF, which has charged the Air Technical Intelligence Center (ATIC) with responsibility for investigating the reports of sightings.

(2) At ATIC there is a small group consisting of a reserve Captain, two Lieutenants and two secretaries to which come all reports of sightings through official channels, and which conducts investigation of the reports either itself or through consultation with other Air Force officers or with civilian technical consultants.

(3) A world-wide reporting system has been instituted and major Air Force bases have been ordered to make interceptions of unidentified flying objects.

(4) The research being carried on is strictly on a case basis and appears to be designed solely to attempt a satisfactory explanation of each individual sighting as it occurs.

(5) ATIC has concluded an arrangement with Battelle Memorial Institute for the latter to establish a machine indexing system for official reports of sightings.

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[redacted]

(6) Since 1947, ATIC has received approximately 1500 official reports of sightings plus an enormous volume of letters, phone calls and press reports. During the month of July 1952 alone, official reports totaled 250. Of the 1500 reports, Air Force carries 20% as unexplained and of those received January through July 1952 it carries 20% unexplained.

3. DISCUSSION

a. OSI entered into its inquiry fully aware that it was coming into a field already charged with partisanship, one in which objectivity had been overridden by numerous sensational writers, and one in which there are pressures for extravagant explanations as well as for oversimplification. The OSI Team consulted with a representative of Air Force Special Studies Group; discussed the problem with those in charge of the Air Force Project at Wright field; reviewed a considerable volume of intelligence reports; checked the Soviet press and broadcast indices; and conferred with three OSI consultants, all leaders in their scientific fields, who were chosen because of their broad knowledge of the technical areas concerned.

b. OSI found that the ATIC study is probably valid if the purpose is limited to a case-by-case explanation. However, the study makes no attempt to solve the more fundamental aspect of the problem which is to determine definitely the nature of the various phenomena which are causing these sightings, or to discover means by which these causes and their visual or electronic effects may be immediately identified. Our consultant panel stated that these solutions would probably be found on the margins or just beyond the frontiers of our present knowledge in the fields of atmospheric, ionospheric, and extraterrestrial phenomena, with the added possibility that our present dispersal of nuclear waste products might also be a factor. They recommended that a study group be formed to perform three functions:

(1) Analyze and systematize the factors of information which form the fundamental problem;

(2) Determine the fields of fundamental science which must be investigated in order to reach an understanding of the phenomena involved; and

(3) Make recommendations for the initiation of appropriate research.

Dr. Julius A. Stratton, Vice President of the Massachusetts Institute of Technology, has indicated to OSI that such a group could be constituted at that Institute. Similarly, Project Lincoln, the Air Force air defense project at MIT, could be charged with these responsibilities.

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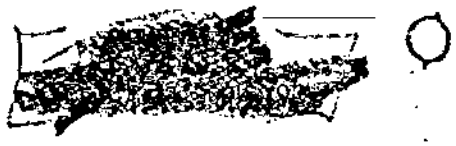

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4. CONCLUSIONS

a. The flying saucer situation contains two elements of danger which, in a situation of international tension, have national security implications. These are:

(1) Psychological - With world-wide sightings reported, it was found that, up to the time of our investigation, there had been in the Russian press no report or comment, even satirical, on flying saucers, though Andre Gromyko had made one humorous mention of the subject. With a State-controlled press, this could result only from an official policy decision. The question, therefore, arises as to whether or not these sightings:

(a) Could be controlled,

(b) Could be predicted, and

(c) Could be used from a psychological warfare point of view either offensively or defensively.

The public concern with the phenomena, which is reflected in the United States press and in pressure of inquiry upon the Air Force, indicates that there is a fair proportion of our population which is mentally conditioned to the acceptance of the incredible. In this fact lies the potential for the touching-off of mass hysteria and panic.

(2) Air Vulnerability - The United States Air Warning System will undoubtedly always depend upon a combination of radar screening and visual observation. We give Russia the present capability of delivering an air attack against us, yet at any given moment now, there may be current a dozen official unidentified sightings plus many unofficial. At any moment of attack, we are now in a position where we cannot, on an instant basis, distinguish hardware from phantom, and as tension mounts we will run the increasing risk of false alerts and the even greater danger of falsely identifying the real as phantom.

b. Both of these problems are primarily operational in nature but each contains readily apparent intelligence factors. From an operational point of view, three actions are required:

(1) Immediate steps should be taken to improve identification of both visual and electronic phantom so that in the event of an attack, instant and positive identification of enemy planes or missiles can be made.

[redacted]

(2) A study should be instituted to determine that, if any, utilization could be made of these phenomena by United States psychological warfare planners, and that, if any, defenses should be planned in anticipation of Soviet attempts to utilize them.

(3) A national policy should be established as to what should be told the public regarding the phenomena, in order to minimize risk of panic.

c. Intelligence problems include:

(1) The present level of Russian knowledge regarding these phenomena.

(2) Possible Soviet intentions and capabilities to utilize these phenomena to the detriment of US security interests.

(3) The reasons for silence in the Soviet Press regarding flying saucers.

d. Intelligence responsibilities in this field as regards both collection and analysis can be discharged with maximum effectiveness only after much more is known regarding the exact nature of these phenomena.

e. The problem transcends the level of individual departmental responsibilities, and is of such importance as to merit cognizance and action by the National Security Council.

f. Additional research, differing in character and emphasis from that presently being performed by Air Force, will be required to meet the specific needs of both operations and intelligence.

5. RECOMMENDATIONS

It is recommended that:

a. The Director of Central Intelligence advise the National Security Council of the security implications inherent in the flying saucer problem with the request that, under his statutory coordinating authority, the Director of Central Intelligence be empowered to initiate through the appropriate agencies, either within or without the Government, the investigation and research necessary to solve the problem of instant positive identification of "unidentified flying objects"

b. CIA, under its assigned responsibilities, and in cooperation with the Psychological Strategy Board, immediately investigate possible offensive or defensive utilization of the phenomena for psychological warfare purposes both for and against the United States, advising those agencies charged with U.S. internal security of any pertinent

[redacted]

findings affecting their areas of responsibility.

c. On the basis of these programs of research, CIA develop and recommend for adoption by the National Security Council a policy of public information which will minimize the risk of panic.

H. MARSHALL CHADWELL
Assistant Director
Scientific Intelligence

OSI/PCStrong:bmd (11 September 1952)

Orig. & 4 - Addressees
1 - Ad/SI
1 - Daily Reading
1 - Subject
1 - Chrono

These copies not attached to me

[redacted]

Mr. [redacted] 8 Aug

Mr. [redacted] FBID, called, giving the following information:

"Der Flieger" is a sports magazine similar to our (US) motor and flying magazines and is published ~~published~~ in Vienna. The article was originally taken from a Vienna newspaper (does not know which one). Noone puts any credence in the story. However, [redacted] through channels, has asked Military Attache to see what they can find out about it.

Bureaupolice has no record of Dr Bakor the Novel } [redacted]

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APPROVED FOR RELEASE
DATE 24 Jan 78

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8 Aug

AFP Paris. Radio teletype in French to the Americas on 8 August 1952, carried the following item:

Bonn. Writing in the German magazine "Der Flieger", Dr. Waldermar Beck says that a flying saucer which recently fell at Spitsbergen has been studied by eminent Norwegian and German rocket experts. He writes that Dr. Norsel, a Norwegian expert in rocket construction went to the place where the flying saucer had fallen a few hours after it had been discovered in the mountains of Spitsbergen by Norwegian jet planes.

In the wreck of the apparatus the expert is said to have discovered a radio piloting transmitter with a nucleus of plutonium transmitting on all wave lengths with 934 herts, a measure that has been unknown so far.

The investigation has also shown that the flying saucer crashed because of a defect in its radio piloting system. The saucer which carried no crew has a diameter of 47 meters. The steel used in the construction is an unknown alloy. It consists of an exterior disc provided at its peripheral with 46 automatic jets. This disc pivots around the central sphere which contains the measurement and remote control equipment. The measurement instructions have an inscription in Russian.

8 Aug. —
FBIS item not used for
Director's log. [redacted]

CLASSIFICATION

C :RAL INTELLIGENCE AGENCY

INFORMATION FROM

FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. CD-R-23045

CD NO. --

COUNTRY	French Morocco; French West Africa	DATE OF INFORMATION	1952
SUBJECT	Military - Unidentified aircraft	DATE DIST.	2 Sept 1952
HOW PUBLISHED	Daily newspapers	NO. OF PAGES	2
WHERE PUBLISHED	Dakar; Casablanca		
DATE PUBLISHED	12 - 18 Jul 1952	SUPPLEMENT TO REPORT NO.	
LANGUAGE	French		

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE Newspapers as indicated.

UNIDENTIFIED FLYING OBJECTS OVER MOROCCO AND FRENCH WEST AFRICA

EYEWITNESS REPORTS SAUCER OVER DAKAR -- Conakry, La Guinee Francaise, 12 Jul 52

France-Afrique [Dakar weekly] reports the statement of an eyewitness who claims to have observed a flying saucer above Dakar at 0608 hours on 3 July 1952.

According to this account, the object was flat and tapered in shape, and issued forth bluish and reddish flames which were quite long and very clearly visible. The report further stated that the object was moving southward at a great rate of speed, at an altitude of approximately 1,500 meters. The report added that the stars were no longer visible at the time of the saucer sighting and that there were no aircraft in flight over Dakar at the time.

FLYING OBJECTS SEEN IN MOROCCO -- Casablanca, La Vigie Marocaine, 16 Jul 52

It is reported from Mechra bel Ksiri that on 12 July 1952, two flying saucers were seen by two policemen on night duty at Had Kourt. The saucers were elongated in shape, followed by a trail of white light, and traveled at a high rate of speed from north to south.

On 13 July 1952, two inhabitants of Fedala reported having seen, at 2345 hours, a blue-green, ball-shaped object, followed by a short trail of light, and moving at a rather high rate of speed. According to the eyewitnesses, the object disappeared after about 3 or 4 seconds as though it had literally melted in the sky.

On 14 July 1952, a man and his wife reported having observed for about 30 seconds, at about 0900 hours, a mysterious flying object traveling from Ifrane in the direction of Meknes.

PUBLISHED Dakar, [illegible]

DATE PUBLISHED 12 - 18 Jul 1952

SUPPLEMENT TO REPORT NO.

LANGUAGE French

[redacted]

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DATE 6 Nov 75

CLASSIFICATION [redacted]

STATE	X	NAVY	X	NSRB		DISTRIBUTION							
ARMY	X	AIR	X	FBI									

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Casablanca, Maroc-Presse, 16 Jul 52

Two inhabitants of Chichaoua report having seen three "white fires" in the sky at 2130 hours on 13 July 1952.

Meanwhile, it is reported from Louis Gentil that at 2130 hours on 12 July 1952, several persons saw a yellow flying disk, about 30 centimeters in diameter, moving very rapidly from east to west.

Unusual flying objects were also reported seen at Bouznikaou and Baulhaut between 2100 and 2200 hours on 13 July 1952.

LUMINOUS OBJECT SEEN NEAR CASABLANCA -- Casablanca, Maroc-Presse, 15 Jul 52

Forty persons have reported that at 2200 hours on 13 July 1952, they observed a "luminous flying object" in the vicinity of Casablanca.

OVIOD OBJECT SEEN TAKING OFF IN DAIET AOUA REGION -- Casablanca, Maroc-Presse, 18 Jul 52

Inhabitants of the Daiet Aoua region, French Morocco, have reported seeing recently a "blue, phosphorescent, ovoid object" on the ground rise rapidly in the air, followed by a bluish trail. The observers estimated the object to be 20 meters long.

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CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. 00-W-23602

CD NO. --

COUNTRY	Belgian Congo	DATE OF INFORMATION	1952
SUBJECT	Military; Scientific - Air		
HOW PUBLISHED	Daily newspaper	DATE DIST.	16 Aug 1952
WHERE PUBLISHED	Vienna	NO. OF PAGES	2
DATE PUBLISHED	29 Mar 1952		
LANGUAGE	German	SUPPLEMENT TO REPORT NO.	

[redacted] THIS IS UNEVALUATED INFORMATION

SOURCE Die Presse.

FLYING SAUCERS OVER BELGIAN CONGO URANIUM MINES

Fritz Sitte

Recently, two fiery disks were sighted over the uranium mines located in the southern part of the Belgian Congo in the Elisabethville district, east of the Luapula River which connects the Meru and Bangweolo lakes. The disks glided in elegant curves and changed their position many times, so that from below they sometimes appeared as plates, ovals, and simply lines. Suddenly, both disks hovered in one spot and then took off in a unique zigzag flight to the northeast. A penetrating hissing and buzzing sound was audible to the onlookers below. The whole performance lasted from 10 to 12 minutes.

Commander Pierre of the small Elisabethville airfield immediately set out in pursuit with a fighter plane. On his first approach he came within about 120 meters of one of the disks. According to his estimates, the "saucer" had a diameter of from 12 to 15 meters and was discus-shaped. The inner core remained absolutely still, and a knob coming out from the center and several small openings could plainly be seen. The outer rim was completely veiled in fire and must have had an enormous speed of rotation. The color of the metal was similar to that of aluminum.

The disks traveled in a precise and light manner, both vertically and horizontally. Changes in elevation from 800 to 1,000 meters could be accomplished in a few seconds; the disks often shot down to within 20 meters of the tree tops. Pierre did not regard it possible that the disk could be manned, since the irregular speed as well as the heat would make it impossible for a person to stay inside the stable core. Pierre had to give up pursuit after 15 minutes since both disks, with a loud whistling sound which he heard despite the noise of his own plane, disappeared in a straight line toward Lake Tanganyika. He estimated their speed at about 1,500 kilometers per hour.

'UBLISHED Vienna

NO. OF PAGES 2

DATE
'UBLISHED 29 Mar 1952

ANGUAGE German

SUPPLEMENT TO
REPORT NO.

[redacted]

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Pierre is regarded as a dependable officer and a zealous flyer. He gave a detailed report to his superiors which, strangely enough, in many respects agreed with various results of research.

ARCHIVAL RECORD
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DATE ...

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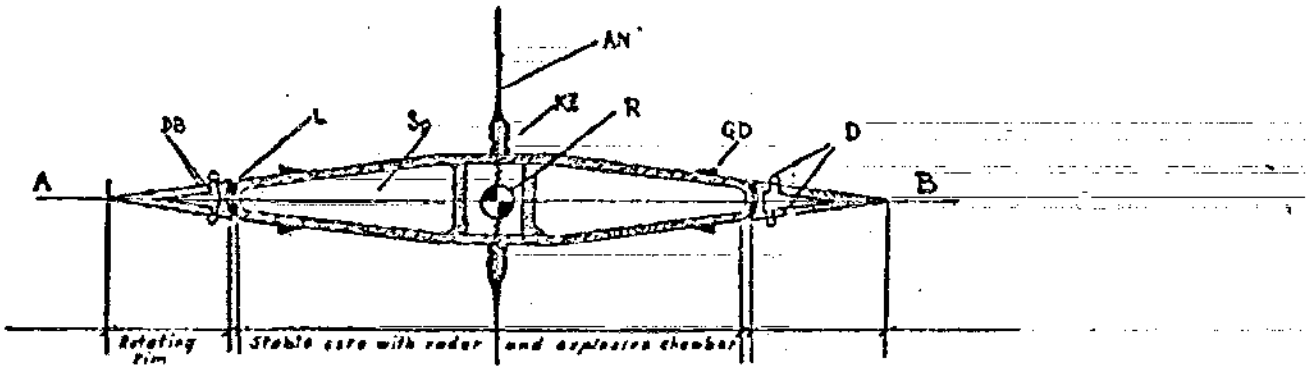
CLASSIFICATION

STATE	X	NAVY	X	NSRB		DISTRIBUTION		AEC	X			
ARMY	X	AIR	X	FBI								

The sketch below shows the construction principle of the "flying saucers." The captions are, in part, purely conjecture, based on reports by pilots who pursued the disks; in part, they were learned from secret research institutions. The central core contains the explosive (SP) and the installations for radar steerage (R). It has catapult knobs (KZ) and antennae (AN) as well as counter-pressure housing (GD). Around this core, a rim rotates which has jets (D) on its upper and lower side, plus fuel chambers (DB). The roller bearing is shown by the letter L. The launching occurs at a sharp angle in the manner of a discus throw; the revolutions per minute of the rim probably amount to 22,000. The jets on the bottom of the rim serve to propel the disk vertically upwards; lateral steerage results from switching on and off various jet groups.

[Appended sketch follows:]



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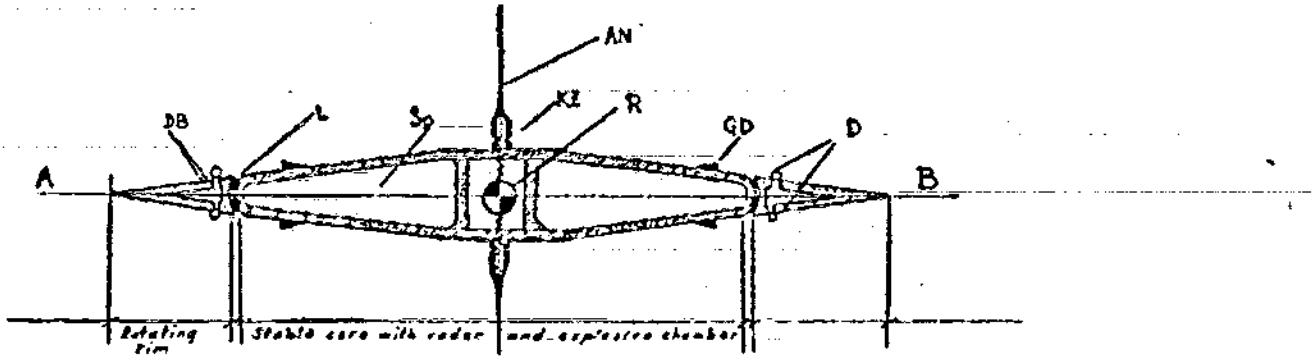

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CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. OO-W-23682

CD NO. --

COUNTRY	Germany	DATE OF INFORMATION	1952
SUBJECT	Military; Scientific		
HOW PUBLISHED	Daily newspaper	DATE DIST.	23 Aug 1952
WHERE PUBLISHED	Athens	NO. OF PAGES	2
DATE PUBLISHED	9 Jul 1952		
LANGUAGE	Greek	SUPPLEMENT TO REPORT NO.	

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE I Kathimerini.

"FLYING SAUCERS" IN EAST GERMANY

Berlin, July -- Furnished with the sworn testimony of an eyewitness, Oscar Linke, a 46-year-old German and former mayor of Gleimershausen, West Berlin intelligence officers have begun investigating a most unusual "flying saucer" story. According to this story, an object "resembling a huge flying pan" and having a diameter of about 15 meters landed in a forest clearing in the Soviet Zone of Germany.

Linke recently escaped from the Soviet Zone along with his wife and six children.

Linke and his 11-year-old daughter, Gabriella, made the following sworn statement last week before a judge: "While I was returning to my home with Gabriella, a tire of my motorcycle blew out near the town of Hasselbach. While we were walking along toward Hasselbach, Gabriella pointed out something which lay at a distance of about 140 meters away from us. Since it was twilight, I though that she was pointing at a young deer.

"I left my motorcycle near a tree and walked toward the spot which Gabriella had pointed out. When, however, I reached a spot about 55 meters from the object, I realized that my first impression had been wrong. What I had seen were two men who were now about 40 meters away from me. They seemed to be dressed in some shiny metallic clothing. They were stooped over and were looking at something lying on the ground.

"I approached until I was only about 10 meters from them. I looked over a small fence and then I noticed a large object whose diameter I estimated to be between 13 and 15 meters. It looked like a huge frying pan.

"There were two rows of holes on its periphery, about 30 centimeters in circumference. The space between the two rows was about 0.45 meters. On

WHERE PUBLISHED Athens

NO. OF PAGES 2

DATE PUBLISHED 9 Jul 1952

LANGUAGE Greek

SUPPLEMENT TO REPORT NO.

[redacted]

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"There were two rows of holes on its periphery, about 30 centimeters in circumference. The space between the two rows was about 0.45 meters. On the top of this metal object was a black conical tower about 3 meters high.

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DATE 6 Nov

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ARCHIVAL RECORD
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CLASSIFICATION [redacted]

STATE	X	NAVY	X	NSRB		DISTRIBUTION						
ARMY	X	AIR	X	FBI								

"At that moment, my daughter, who had remained a short distance behind me, called me. The two men must have heard my daughter's voice because they immediately jumped on the conical tower and disappeared inside.

"I had previously noted that one of the men had a lamp on the front part of his body which lit up at regular intervals.

"Now, the side of the object on which the holes had been opened began to glitter. Its color seemed green but later turned to red. At the same time I began to hear a slight hum. While the brightness and hum increased, the conical tower began to slide down into the center of the object. The whole object then began to rise slowly from the ground and rotate like a top.

"It seemed to me as if it were supported by the cylindrical plant which had gone down from the top of the object, through the center, and had now appeared from its bottom on the ground.

"The object, surrounded by a ring of flames, was now a certain number of feet above the ground.

I then noted that the whole object had risen slowly from the ground. The cylinder on which it was supported had now disappeared within its center and had reappeared on the top of the object.

"The rate of climb had now become greater. At the same time my daughter and I heard a whistling sound similar to that heard when a bomb falls.

"The object rose to a horizontal position, turned toward a neighboring town, and then, gaining altitude, it disappeared over the heights and forests in the direction of Stockheim."

Many other persons who live in the same area as Linke later related that they saw an object which they thought to be a comet. A shepherd stated that he thought that he was looking at a comet moving away at a low altitude from the height on which Linke stood.

After submitting his testimony to the judge, Linke made the following statement: "I would have thought that both my daughter and I were dreaming if it were not for the following element involved: When the object had disappeared, I went to the place where it had been. I found a circular opening in the ground and it was quite evident that it was freshly dug. It was exactly the same shape as the conical tower. I was then convinced that I was not dreaming."

Linke continued, "I had never heard of the term 'flying saucer' before I escaped from the Soviet Zone into West Berlin. When I saw this object, I immediately thought that it was a new Soviet military machine.

"I confess that I was seized with fright because the Soviets do not want anyone to know about their work. Many persons have been restricted to their movements for many years in East Germany because they know too much."

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CLASSIFICATION [redacted]

CENTRAL INTELLIGENCE AGENCY

INFORMATION FROM

FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. OO-W-23759

CD NO. --

COUNTRY	Spain; Tunisia; French Morocco	DATE OF INFORMATION	1952
SUBJECT	Military - Unconventional aircraft	DATE DIST.	27 Aug 1952
HOW PUBLISHED	Daily newspapers		
WHERE PUBLISHED	Tangier; Algiers	NO. OF PAGES	2
DATE PUBLISHED	22 May - 16 Jun 1952	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Spanish; French		

[redacted] THIS IS UNEVALUATED INFORMATION

SOURCE Newspapers as indicated.

FLYING SAUCERS IN SPAIN AND NORTH AFRICA

SMOKE-TRAILING OBJECT OVER BARCELONA -- Tangier, Espana, 22 May 52

Barcelona, 21 May -- As I crossed Jose Antonio Avenue on my way to the newspaper office, I saw a strange object flying at high speed from the direction of Prat Airport, about 2,000 meters above ground, and leaving a wide smoke trail. It did not look like an aircraft (neither Prat nor Sabadell airport admitted any knowledge of the object), and unlike the so-called flying saucers, it was proceeding in a straight line, without emitting flashes of light or revolving on an axis. The object seemed to me to be rocket-shaped, and the smoke came out of two points close together, merging into a single streak.

My colleagues at the office saw the smoke but not the object. Over Badalona, about 10 kilometers away, the object stopped trailing smoke, disappeared for a few seconds, and reappeared, again emitting smoke, several kilometers farther away. The newspaper office was soon flooded with telephone calls from people who had seen the object. A friend of ours took the picture of the smoke trail. -- Valentin Garcia

[The picture shows a diagonal stripe of diminishing width and lighter in shade than the sky over the dark bulk of a building cornice. It is attributed to Francisco Andreu. The caption says that the picture was taken "on 17 May," although the report is dated 21 May.]

UNUSUAL OBJECT OVER TUNISIA -- Algiers, Echo d'Alger, 4 Jun 52

On 3 June, at about 2000 hours, many inhabitants of Sousse saw a flying object traveling at dizzy speed from west to east and emitting a pale green light.

WHERE PUBLISHED Tangier; Algiers

NO. OF PAGES 2

DATE PUBLISHED 22 May - 16 Jun 1952

SUPPLEMENT TO REPORT NO.

LANGUAGE Spanish; French

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ARMY	X	AIR

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FLYING SAUCER OVER MEKNES, MOROCCO -- Algiers, Echo d'Alger, 11 Jun 52

Two witnesses reported a flying saucer appearing above Meknes at 1300 hours on 7 June 1952. One of them said that he saw a bright spot in the sky moving at lightning speed. He was able to compare its speed with that of some T-33 planes flying near the Meknes base, for they seemed very slow by comparison. The unknown apparatus emitted a white trail of smoke and made no sound. It drew near, described a parabola in the sky, stopped, and then disappeared toward Ifrane in the south.

FLAMING DISC ABOVE TAOURIRT, MOROCCO -- Algiers, Echo d'Alger, 16 Jun 52

On the morning of 15 June 1952, a strange phenomenon appeared above Taourirt, French Morocco. For 30 seconds, dock workers saw a disc of white flames surrounded by two circular strands, with smoke trailing behind it. The fiery object, which seemed to move earthward, vanished rapidly.

SAUCER OVER CASABLANCA -- Algiers, Journal d'Alger, 16 Jun 52

After Meknes and Marrakech, Casablanca had its flying saucer on 15 June 1952. It was observed by Andre Assorin, a former pilot. The Meteorological Bureau claims that is has not seen this unusual apparition above Casablanca.

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CENTRAL INTELLIGENCE AGENCY

INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. CO-W-24549

CD NO. --

COUNTRY	Norway	DATE OF INFORMATION	1952
SUBJECT	Military - Air, unidentified objects	DATE DIST.	13 Nov 1952
HOW PUBLISHED	Four-times weekly newspaper		
WHERE PUBLISHED	Harstad	NO. OF PAGES	1
DATE PUBLISHED	20 Sep 1952	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Norwegian		

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE Harstad Tidende.

UNIDENTIFIED OBJECT OVER NORWEGIAN TOWN

On 18 September, at 1400 hours, three forestry workers who were working right outside Kirkenes noticed a flat, round object hovering motionless at about 500 meters altitude. The object appeared to have a diameter of 15-20 meters. After the workers had observed the object for a while, it suddenly flew away at great speed in a northwesterly direction.

It appears that only these three workers saw the object; they swear, however, that their report is true.

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DATE PUBLISHED 20 Sep 1952

LANGUAGE Norwegian

SUPPLEMENT TO REPORT NO.

[redacted]

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CLASSIFICATION [redacted]

STATE	X	NAVY	X	NSRB		DISTRIBUTION							
ARMY	X	AIR	X	FBI									

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CENTRAL INTELLIGENCE AGENCY

INFORMATION FROM

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REPORT NO. OO-W-24108

CD NO. --

COUNTRY	Algeria; Spain; French Equatorial Africa	DATE OF INFORMATION	1952
SUBJECT	Military - Unconventional aircraft	DATE DIST.	27 Sep 1952
HOW PUBLISHED	Daily and thrice-weekly newspapers		
WHERE PUBLISHED	Tangier; Conakry; Oran; Casablanca	NO. OF PAGES	4
DATE PUBLISHED	22 Apr - 1 Aug 1952	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Spanish; French		

[redacted]

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"SAUCERS" SIGHTED OVER SPAIN AND FRENCH AFRICA

GLOWING SPHERES SEEN OVER ALMANSA, SPAIN -- Tangier, Espana, 22 Apr 52

Almansa, 21 April -- At 0800 hours today, many persons saw a series of four glowing spheres crossing the sky along the Murcia-Valencia trajectory at high speed and at a great height. The spheres looked like locks of wool of a vivid reddish color which changed to an intense yellow as they flew farther away. They gradually disappeared in the distance. No unusual sound was heard. The spectacle lasted hardly a minute.

ANDUJAR RESIDENTS REPORT SAUCER -- Tangier, Espana, 1 Aug 52

The Cifra news agency reports that on the night of 30 July 1952, many residents of Andujar, Spain, saw what was presumed to be a so-called flying saucer. The object was red, round, and approximately the size of a desert dish. It flew noiselessly, at great speed, and left behind a long trail of very bright greenish light.

LUMINOUS OBJECT SEEN OVER PORT GENTIL -- Conakry, La Guinee Francaise, 26 Jun 52

The master of a cargo ship anchored in front of the wharf of Port Gentil [in Gabon, French Equatorial Africa] reported that at 0240 hours on 1 June 1952 a mysterious object came up from the area behind Port Gentil, made a double loop, passed over the roadstead, and then dived toward the sea at great speed. He submitted the report to the local authorities and to the administrative offices of his company. The following is a summary of his story.

On 1 June 1952 at 0240 hours, the ship was riding at anchor in the roadstead

PUBLISHED Daily and thrice-weekly newspapers

WHERE PUBLISHED Tangier; Conakry; Oran; Casablanca

NO. OF PAGES 4

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SUPPLEMENT TO REPORT NO.

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On 1 June 1952 at 0240 hours, the ship was riding at anchor in the roadstead of Port Gentil, heading 150 degrees. The northern sky was clear and starry; the southern, slightly cloudy. Visibility was excellent, a slight southwest breeze prevailed, and the sea was calm. There was a quarter moon.

ARCHIVAL RECORD
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6 Nov 78

CLASSIFICATION [redacted]

STATE	X	NAVY	X	NSRB	DISTRIBUTION
ARMY	X	AIR	X	FBI	

The first mate was at his forward post ready to weigh anchor while the master was on the bridge with the officer on duty. With the exception of the mooring lights, the ship was in complete darkness, thus permitting excellent night visibility.

At 0240, the first mate telephoned the master informing him that he had just sighted an unknown luminous object in the sky which came from Port Gentil and passed directly over the ship. Training his binoculars (Zeiss 7 x 50, for night vision) skyward, the master was able to see quite clearly, on the port quarter, a very bright and phosphorescent orange light, circular in shape and moving at a great speed in a seemingly straight-line course. Standing on the wing of the bridge, and with the aid of the gyrocompass repeater, the master estimated its average direction to be about 10 degrees.

He followed the light quite easily in his binoculars for about 3 minutes and lost sight of it when it moved at great speed over the Prince buoy, about 7 miles from the ship. The master was unaware of any accompanying sound and admits that it was difficult to estimate the altitude of the object, yet he judged this to be 3,000-4,000 meters. Its diameter was that of a planet.

The first mate stated that before he telephoned the master, he saw that object come from the direction of Port Gentil, stop, make a right turn, and resume its initial course. As it passed directly over the ship, it repeated the same sort of gyration.

The master stated that his 20 years of sea duty enabled him to affirm that what he saw was neither a known celestial phenomenon, such as a falling star or meteor, nor a current type of aircraft.

Furthermore, it was confirmed that there were no planes in the air that night over Port Gentil.

STRANGE OBJECTS SEEN IN SKY OVER ALGERIA -- Oran L'Echo d'Oran, 17 Jul 52

At 2300 hours on 15 July 1952, in the town of Boukanefis, two bakers clearly saw a plate-shaped flying object in the sky. It moved with unusual agility, giving off a greenish smoke and lighting up the sky. It seemingly did not alter its course as it increased its speed and disappeared toward the south.

Similarly, in Lamoriciere on 11 July 1952, one Thomas Martinez saw a sudden illumination above and at first took it to be a falling star. Actually, it seemed more like a meteor followed by two other bodies, all trailing a yellow cloud of smoke. Then, these disappeared and out of nowhere appeared an oval-shaped, longish ball of fire. Flying at a low altitude and clearly visible, it rapidly followed a rectilinear course.

STRANGE PHENOMENON WITNESSED FROM TWO POINTS IN ORAN -- Oran, L'Echo d'Oran, 26 Jul 52

Recently [presumably 25 July 1952], several inhabitants of Oran reported seeing a flying saucer at approximately the same time.

At 1535 hours, Raoul Le Renaff, foreman of a local company, saw an incandescent white mass in the sky above Oran. It flew southwestward, traveling at an altitude of about 2,000 meters. There was no luminous exhaust and no smoke. After 30 seconds, the phenomenon grew hazy and disappeared. The personnel of the company office and Palacio, an employee in the Algeronaphte [factory?] also

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[redacted]

At 1537 hours, Maurice Dubessay, who works for L'Echo d'Oran, saw what appeared to be a brilliant disk going in a southwest direction at a great speed and at medium altitude. It disappeared after 5 seconds. In a similar time interval, Atias and Karsenty, two grocers, also saw the unknown object before it disappeared behind a cloud.

SAUCERS OBSERVED IN TWO AREAS OF ORAN -- Oran, L'Echo d'Oran, 28 Jul 52

On 26 July 1952, people in two areas of Oran reported seeing unusual flying objects, described as "saucers."

At about 2300 hours, three women in the Eckmuhl district of Oran noticed a large, orange-red, luminous patch in the sky, of the size of a duck's egg, but flatter. Traveling from east to west, it appeared to halt for a second then vanished.

Three trustworthy individuals living on the Tiaret plateaus saw an unusual flying object at 1045 hours. The local parish observed it for about 40 seconds and described it as a shining, cigar-shaped mass without a smoke trail. It disappeared toward the northwest. A teacher and his wife gave a similar description, adding that the object had a dark center, was in an oblique position, and moved at an altitude of about 3,000 meters. No one heard any sounds of a motor.

CITES SEVERAL APPEARANCES OF FLYING SAUCERS IN ALGERIA -- Casablanca, La Vigie Marocaine, 31 Jul 52

On the evening of 29 July 1952, two new flying saucers were sighted. The first, appearing at 2050 hours over Mostaganem, was visible only a few seconds. The second one appeared at 2300 hours at Ain Teledes. It flew above the city for about a minute, emitting a whitish trail of smoke. The manner in which it attained various altitudes revealed a surprising maneuverability. When it disappeared, it was headed south.

This is the fifth time in a matter of weeks that this phenomenon has been noted in the Department of Oran. A saucer appearing to be about the size of a teacup was observed by two policemen over Frenda (at the east end of Oran Department). It consisted of a dark nucleus within a luminous mass. Near Tlemcen, motorists noted a strange cigar-shaped object at a height of 600 meters. There was a luminous cloud in its wake. And finally, at Lamoriciere, about 40 kilometers from the Abdellys area, motorists saw a phosphorescent disk for a brief period of time.

POINTS TO FREQUENCY OF FLYING SAUCER REPORTS IN OR/N DEPARTMENT -- Oran, L'Echo d'Oran, 31 Jul 52

/After it had received and published a series of flying saucer reports, the newspaper L'Echo d'Oran carried a review of the occurrences, as well as several late reports. The following is a summary of the article./

Our correspondents have sent us word of saucers appearing everywhere in Oran Department during the past few days. This seems to be the saucers' favorite area, one which is no doubt salutary for their development. They have appeared here with greater frequency than in France or the US. It is impossible, moreover, to doubt the veracity of the observers, since they include policemen, colons, a priest,

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POINTS TO FREQUENCY OF FLYING SAUCER REPORTS IN ORAN DEPARTMENT -- Oran, L'Echo d'Oran, 31 Jul 52

/After it had received and published a series of flying saucer reports, the newspaper L'Echo d'Oran carried a review of the occurrences, as well as several late reports. The following is a summary of the article./

Our correspondents have sent us word of saucers appearing everywhere in Oran Department during the past few days. This seems to be the saucers' favorite area, one which is no doubt salutary for their development. They have appeared here with greater frequency than in France or the US. It is impossible, moreover, to doubt the veracity of the observers, since they include policemen, colons, a priest, and a cadi.

[redacted]

At 0400 hours today, Raymond Botella, a Public Works Department employee in Tlemcen, saw a flying object moving rapidly north and trailing a whitish smoke cloud. A half hour before, the mysterious saucer had been seen in Oued Taria, traveling at the same speed and, like the saucer observed yesterday, making abrupt turns and changes of direction.

On the night of 30 July, in Sainte Barbe du Tlelat, a police adjutant, two policemen, and a cadi observed a luminous flying object for about 30 seconds. The daily police reports will henceforth include all such observations by the police.

In the morning of 30 July, a resident of Algiers saw, for several seconds, a shining black disk on the horizon. It made a rapid vertical descent, then suddenly moved in a horizontal direction. *

Two observations were made in Lodi. On 25 July, at about 2130 hours, a yellowish object flew at a dizzy speed in the sky, and on 28 July, at 2150 hours, a much larger object appeared for several seconds; it had the shape of an inverted cone.

OBSERVE UNUSUAL FLYING OBJECT FOR OVER A MINUTE -- Oran, L'Echo d'Oran, 1 Aug 52

At 1130 hours on 31 July 1952, an Oran resident and his wife, while driving on the road between Saint Denis Du Sig and Le Tlelat, saw something flying in the sky about 1,000 meters up. They stopped the car and watched its course for about 1½ minutes. It was spindle shaped and tapered at both ends. It differed from ordinary aircraft in that it showed no exhaust smoke, made no noise, and had a great speed.

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CLASSIFICATION [redacted] 17M: 54 [redacted]

CENTRAL INTELLIGENCE AGENCY

INFORMATION FROM

FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. OO-W-24639

CD NO. --

COUNTRY	Spain; French Morocco; Algeria; Tangier French West Africa; Union of South Africa	DATE OF INFORMATION	1952
SUBJECT	Military - Unconventional aircraft		
HOW PUBLISHED	Daily, semiweekly newspapers	DATE DIST.	24 Nov 1952
WHERE PUBLISHED	French Morocco; Algieria, Tangier; French West Africa	NO. OF PAGES	4
DATE PUBLISHED	17 Jul - 8 Oct 1952		
LANGUAGE	French; Spanish	SUPPLEMENT TO REPORT NO.	

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE Newspapers as indicated.

SIGHTINGS OF UNIDENTIFIED FLYING OBJECTS OVER SPAIN AND AFRICA, JULY - OCTOBER 1952

DISKS APPEAR OVER MARRAKECH -- Rabat, L'Echo du Maroc, 17 Jul 52

Marrakech (special correspondent) -- At 2100 hours [presumably on 16 July 1952], many people saw a large, luminous disk flying horizontally, with a leaping and bounding motion. Then, there was a burst of light. A second disk of smaller dimensions appeared, going off horizontally toward the southwest. The whole appearance lasted about one minute.

From several points of the Marrakech region, luminous disks were seen traveling at a dizzy speed.

On 14 July, flying saucers had been seen over the Ifrane region, flying toward Meknes.

LUMINOUS DISK OR BALL SEEN OVER MOULAY BOUSSELHAM -- Rabat, L'Echo du Maroc, 5 Aug 52

On 2 August 1952, at about 2045 hours, a group of five trustworthy persons saw a luminous disk or ball in the sky over Moulay Bousselham, French Morocco. The object, red in the center and bluish around the edge, flew very rapidly from southeast to northwest, remaining visible for at least 20 seconds before it disappeared over the horizon.

LUMINOUS OBJECTS SEEN OVER ALGERIA -- Oran, Oran Republicain, 16 Aug 52

In Ain Sefra, on the night of 12 August 1952, a railroad agent observed

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LUMINOUS OBJECTS SEEN OVER ALGERIA -- Oran, Oran Republicain, 16 Aug 52

In Ain Sefra, on the night of 12 August 1952, a railroad agent observed a ball of fire suddenly appearing against a background of clouds, racing across the sky from east to west and leaving behind a luminous pink trail. Apparently increasing in volume, the object stopped suddenly, became bright red, and seemed to explode, but the observer did not hear any noise.

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STATE	X	NAVY	X	NSRB		DISTRIBUTION						
ARMY	X	AIR	X	FBI								

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At 2115 hours on 14 August 1952, two persons in the city of Constantine saw a luminous object flying at high speed toward Guelma. According to the witnesses, the apparatus, which had no resemblance to a flying saucer, emitted a very bright light. At the time this happened, the local weather bureau had not launched any weather balloons.

The same day, at 1920 hours, many people at the docks of Philippeville saw in the sky an enormous red disk going from north to west, leaving behind a greenish trail.

SAUCER-LIKE CRAFT SEEN IN SPAIN -- Tangier, Espana, 12 Aug 52

According to the Cifra news agency, on the evening of 10 August 1952, a resident of Cuenca, Spain, while walking along the Cuenca-Madrid road, saw an object similar to the so-called flying saucers. It crossed the sky at high speed in a matter of seconds. The object was round and gave off two luminous trails.

OBSERVE TWO STRANGE FLYING OBJECTS IN SPAIN -- Tangier, Espana, 22 Aug 52

Several inhabitants of Puerto Real, 6 kilometers from San Fernando, recently saw two elongated oval objects in the sky approaching each other from opposite directions. When it seemed that they were about to collide, each object made a right turn, picked up speed, and then disappeared. The objects flew at a great height, seemed lead-gray in color, and appeared to be piloted.

LUMINOUS OBJECT SEEN OVER MALLORCA -- Tangier, Espana, 4 Sep 52

On 3 September 1952, late at night, four professors of the Seraphic Seminary in Palma, Mallorca Island, noticed a luminous disk in the sky, traveling from west to east. They said that it could not have been a shooting star and that they were giving the report as objectively as possible in its barest details to provide another item for the study of the flying saucer phenomenon.

TWO METEOROLOGISTS SEE SAUCERS IN UNION OF SOUTH AFRICA -- Oran, L'Echo d'Oran, 8 Sep 52

On the morning of 6 September 1952, a meteorologist was taking weather observations in Durban, Union of South Africa, when he saw a white object moving smoothly across his field of vision. After two more had appeared and passed in the same manner, he called a coworker, with whom he observed three more saucers. He was able to follow one of them with a theodolite, which indicated that the object was at a high altitude. It had about the same shape as a weather balloon which was then at an altitude of only 3,500 meters. The spherical objects appeared to be at an altitude above 6,500 meters.

Both men have been meteorologists for some time (the second man is the director of the weather bureau at Natal). Their information was written into the records of the local meteorological office.

THOUSANDS WITNESS SAUCER OVER MOROCCO AND TANGIER -- Casablanca, Maroc-Presse, 22 Sep 52

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THOUSANDS WITNESS SAUCER OVER MOROCCO AND TANGIER -- Casablanca, Maroc-Presse, 22 Sep 52

On 21 September 1952, at about 1820 hours, an unusual object, possibly a saucer, flew at great speed over Casablanca. Shortly afterwards, about 15 telephone calls were received from local residents, and our Tangier correspondent

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called to say that he had seen the object going from east to west at 1815 hours (about 2-5 minutes before it flew over Casablanca!). Also, two observers in the Nefifik River valley were able to time the passage of the object with a chronometer; it was then 1817 hours, and the object was coming from the direction of Rabat, traveling from east to west.

Some of the reports gave the following details about the object: luminous, cigar-shaped, and giving off a silvery smoke trail; a luminous, whitish-green globe ending in a long cone and flying about 700 feet up, the same as a plane which flew by at the same time (outside of Casablanca); and a flaming, globe-shaped mass trailing white smoke in puffs, as though puff followed an explosion -- the object stopped short a moment and revolved on itself, emitting a shower of sparks about its cone.

About 6,000 spectators at a boxing match in Casablanca saw the object pass over the arena. In Louis Gentil, numerous persons saw it at 1818 hours, flying from east to west. In Marrakech, it made its appearance for 5 seconds at 1830 hours, when it was clearly seen by three persons who described it as a meteor, again traveling from east to west.

REPORT STRANGE OBJECT OVER TANGIER AND FES -- Fes, Le Courrier du Maroc, 22 Sep 52

On 21 September 1952, at 1815 hours, many people at a beach 17 kilometers from Tangier saw toward the south a luminous disk of a diameter close to that of the setting sun, flying horizontally from east to west. After holding its course for about 12 seconds, the disk, which looked like a brightly illuminated metal object, suddenly emitted two great streaks of flames and disappeared.

At 1820 hours, a strange object was also seen in the sky over Fes, French Morocco, flying at high speed from east to west and leaving behind a luminous white trail.

PILOT GETS CLOSE VIEW OF SAUCER FOR BRIEF INTERVAL -- Casablanca, Maroc-Presse, 23 Sep 52

The pilot of a tourist plane reports that on 21 September 1952, he flew for 10 seconds and about 50 meters in the same direction as the flying saucer so widely observed that day. This former military pilot, whose name is Creze, answered specific questions put to him and gave the following information:

As he was preparing to land at an airfield in Casablanca, at 1825 hours, he noticed the strange object about 30 meters to the left of his plane (a ground mechanic later verified this, as he saw a luminous object fly between himself and the plane). It was flying horizontally from east to west, along the same line of flight as that maintained by Creze. The latter was doing 220 kilometers an hour at the time, at an altitude of 450 meters, and the object was going about twice as fast. He motioned to his passenger, who saw it too. It looked like a bright blue-green flame and had an oblong cigar-like shape. He heard no noise coming from it. After it passed the plane, it disappeared in the direction of the sea. The pilot did not attempt to pursue it, fearing the same fate as that of the US pilot [Captain Mantell].

That same evening, in Azemmour, French Morocco, a French couple and their farm workers heard a loud explosion as the strange flying object passed by. This is the first report we have of any sound heard from such objects. Other reports were received from Fes, Meknes, and Safi, where in each case the sight-

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BELIEVE OBJECT OVER MOROCCO ONLY A METEOR -- Rabat, L'Echo du Maroc, 22 Sep 52

On 21 September 1952, at 1818 hours, the mysterious flying object seen in all Morocco and beyond was observed over Rabat. It seems more likely, however, that this time, it was a meteor, because the trajectory of the object was given as rectilinear, it did not maneuver in the way saucers are said to do, and its entire body was incandescent, which is not true of flying machines.

The object was variously described as an orange-colored ball of fire, an arrow, or a cone-shaped object trailing a bright green-blue cloud of smoke, heading from east to west and parallel to the coast, and moving at the speed of a conventional plane at an altitude of about 1,000 meters. The object was visible for only a few seconds. After it passed a thin, white trail of smoke remained visible for about 5 minutes.

GIVE DETAILS ON MYSTERIOUS OBJECT FLYING OVER IVORY COAST -- Abidjan, La Cote d'Ivoire, 8 Oct 52

Three members of a family in Abidjan declared that shortly after 0130 hours on 3 October 1952, a bright green light flashed from the east across the sky, seemingly the exhaust of some craft. The latter was momentarily motionless, at which time it seemed orange red in color. Then it revolved about itself in a ring of fire, zig-zagging upward and remaining in the same area of the sky. As it moved, it assumed various shapes, flat, round, and oval. Its color varied then from purple to gold. After many rapid, noiseless turns, it dwindled in size, turned green, and disappeared -- that was at about 0200 hours.

The three observers gave the impression of being quite level-headed.

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CENTRAL INTELLIGENCE AGENCY

WASHINGTON 25, D. C.

OFFICE OF THE DIRECTOR

1950

MEMORANDUM TO: Director, Psychological Strategy Board

SUBJECT: Flying Saucers

1. I am today transmitting to the National Security Council a proposal (TAB A) in which it is concluded that the problems connected with unidentified flying objects appear to have implications for psychological warfare as well as for intelligence and operations.

2. The background for this view is presented in some detail in TAB B.

3. I suggest that we discuss at an early board meeting the possible offensive or defensive utilization of these phenomena for psychological warfare purposes.

Walter B. Smith
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Enclosure

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PROBLEM:

It is the purpose of this study to determine what concern to CIA, if ~~any, is resident~~ are present in the problem of "unidentified flying objects," and to recommend, if such interest is found, steps that should be taken to ~~improve CIA's intelligence position on aspects related to national security.~~ solve the problem and lessen the risks.

[redacted]

[redacted]

FACTS BEARING ON THE PROBLEM:

1. Since 1947, there have been about 1500 official reports of sightings plus an enormous volume of letters, phone calls and press reports. During this July alone, official reports totaled 250. Of the 1500, Air Force carries 20% as unexplained and of those received since the first of this year, 28% unexplained.

2. The administrative unit now handling the Air Force inquiry on these phenomena is a small section headed by an Air Force Reserve Captain, E. J. Ruppelt, assisted by two lieutenants and two secretaries at Air Technical Intelligence Center, Wright Field. It is from this small group that the controling collection directive to the entire Air Force originated and it is to this small group that the flood of reports on flying saucers comes for collation and analysis.

3. Research and analysis at this time is limited almost exclusively to the

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Illegible original

The three man OSI team entered into its inquiry fully aware that it was coming into a field already charged with partisanship, one in which objectivity had been overridden by numerous sensational writers, and one in which there are pressures for extravagant explanations as well as for oversimplification. They consulted with a representative of Air Force Special ~~Projects~~ Studies group; discussed the problem with those in charge of the Air Force Project at Wright Field; reviewed a considerable volume of intelligence reports; checked the Soviet press and broadcast indices; and conferred with three of our consultants at MIT, all leaders in their scientific fields.

The present small scale inquiry at ATIC, which thus far has been able only to use the case history approach, examining each incident carefully to determine whether it can be explained or whether it must be put into the "unexplained" [illegible] was considered a perfectly valid procedure but one that offered but [illegible] in opening up explanations regarding the nature of these phenomena, [illegible] at MIT told us, it would probably be found on the margins or just [illegible] Area of our present knowledge in the fields of atmospherics, [illegible] phenomena, taking into account the possibility [illegible] a factor to consider. A systematic [illegible] unexplained cases would contemplate a centrally coordinated [illegible] on a number of fronts and involving a variety of

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Contents Nearly Illegible

The problem of "[illegible]ified flying objects" is a national security problem of concern to operations as well as to intelligence.

2. Operational problems are of primary importance and should be attacked at once. They include:

a. Taking immediate steps to improve identification of "phantoms" so that in the event of an attack, instant and positive identification of enemy rockets or plane could be made.

b. Determination of what if any utilization should be made of these phenomena by US psychological warfare planners and what, if any, defenses should be planned in anticipation of Soviet attempts to utilize them.

3. Intelligence problems include.

a. Knowledge of the exact nature of these phenomena especially as regards:

(1) Whether any are susceptible to control, and can be thus utilized for either military or psychological offense or defense.

(2) Whether any are predictable and can thus be taken advantage of in military or psychological operations.

b. The present level of Russian knowledge regarding these phenomena.

c. Possible Soviet intentions and capabilities to utilize these phenomena, to the detriment of US security interests.

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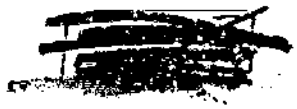
b. The present level of Russian knowledge regarding these phenomena.

c. Possible Soviet intentions and capabilities to utilize these phenomena to the detriment of US security interests.

d. The reasons for silence in the Soviet Press regarding "flying saucers".

4. Intelligence responsibilities in this field as regards both collection and analysis can be discharged with maximum effectiveness only after much more



The problem transcends [illegible] of individual departmental responsibilities, and is of such importance as to merit cognizance and action by the National Security Council.

6. Additional work, differing in character and emphasis from that presently under way will be required to meet the specific needs in this field of both operations and intelligence.

RECOMMENDATIONS:

One of the two ~~feasible~~ courses of action set ~~forth~~ forth below is proposed; one requires NSC action, and the other requires action by Secretary of Defense:

1. NSC action: under this course, it is recommended:

a. That the DCI present to the NSC a draft NSC directive (DAB A) which prescribes that a centrally administered research program under RDB be established, in accordance with Sec. 214 (a), National Security Act of 1947, this program having for its research objectives requirements to be specified by the Secretary of Defense, the Director of Central Intelligence, and Director Psychological Strategy Board.

b. That upon issuance of this NSC directive, CIA exercise its [illegible] function in providing coordinated intelligence requirements and [illegible] intelligence support to RDB.

2. Secretary of Defense action: under this course, it is recommended:

a. That the DCI [illegible]

6. Additional work, differing in character and emphasis from that presently under way will be required to meet the specific needs in this field of both operations and intelligence.

RECOMMENDATIONS:

One of the two ~~feasible~~ courses of action set ~~forth the~~ below is proposed; one requires NSC action, and the other requires action by Secretary of Defense:

1. NSC action: under this course, it is recommended:

a. That the DCI present to the NSC a draft NSC directive (TAB A) which prescribes that a centrally administered research program under RDB be established, in accordance with Sec. 214 (a), National Security Act of 1947, this program having for its research objectives requirements to be specified by the Secretary of Defense, the Director of Central Intelligence, and Director Psychological Strategy Board.

b. That upon issuance of this NSC directive, CIA exercise its [illegible] function by providing coordinated intelligence requirements and [illegible] intelligence support to RDB.

2. Secretary of Defense action: under this course, it is recommended:

a. That the DCI suggest to Secretary of Defense along lines of the [illegible] that coordinated research program would be valuable to CIA, and [illegible] a study to undertaken by Defense, that coordinated intelligence requirements be provided by CIA before the study is started.

DRAFT

NSC

SUBJECT: Unidentified flying objects.

1. The National Security Council has recognized as a national security problem our present limited capabilities in making prompt positive visual or mechanical identification of flying objects. The problem is recognized also as one which bears directly upon both offensive and defensive capabilities of the armed forces; as one of concern to operations as well as to intelligence; and as one having possible implications for psychological warfare.

2. As the nature of the problem is such that a centrally administered inquiry rather than a divided effort offers the best promise of progress, the Director, Research and Development Board is charged with the responsibility of administering in this field a program of research which meets the specifications of Secretary of Defense and as regards operational requirements; of the Director of Central Intelligence, as regards the intelligence requirements and of Director, Psychological Strategy board, as regards psychological warfare implications.

A B E

DRAFT LETTER

FROM: DCI

TO : Secretary of Defense

SUBJECT: Intelligence interest in a study of unidentified flying objects.

1. Recently CIA's Office of Scientific Intelligence made an inquiry into the possible intelligence implications of this subject. We concluded that while the operational problem of improvement in identification of "phantoms" was of first priority because of the need to make instant and positive identification of enemy rockets or planes, the solution of intelligence problems are of sufficient importance to justify vigorous support by this Agency of an organized attack on the problem.

2. In our inquiry three of our men consulted with a representative of Air Force Special Projects group; discussed the problem with those in charge of the Air Force Project at Wright Field; reviewed a considerable volume of intelligence reports; checked the Soviet press and broadcast indices; and conferred with three of our consultants at MIT, all leaders in their scientific fields.

3. The present small scale inquiry at ATIC, which thus far has been able [illegible] case history approach, examining each incident carefully to [illegible] whether it can be explained or whether it must be put into the [illegible] a perfectly valid procedure but one that [illegible] little promise in opening up explanations regarding the nature of these

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[illegible] phenomena, taking into account the possibility that nuclear waste products might also be a factor to consider. A systematic attack on the as-yet unexplained cases would contemplate a centrally coordinator program involving projects on a number of fronts and involving a variety of techniques not now used.

4. As the strictly US military operations problem of improved identification at home and abroad is closely tied to a number of intelligence questions, it would be advantageous to CIA, as well as to the interests of the intelligence components of Department of Defense, if intelligence research requirements could be included in any organized inquiry into the subject.

5. At this time we know so little of the exact nature of these phenomena that additional research would be necessary before it could be said whether any are susceptibel to control and can thus be utilized for either military or psychological offense or defense, or whether any are predictable, and can thus be taken advantage of in military or psychological operations.

6. It may be found that an appropriate center for such research would be in a group such as Project Lincoln which is now working for Department of Defense on problems of air defense.

7. At this time we are unable to find any basis in our information for [illegible] Soviet intentions or capabilities to utilize these phenomena to our detriment. The Soviet Press has been silent on the subject — which is

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8. It would be appreciated if this agency could participate in any plans for further inquiry into this subject.

[redacted]

PRESENT STATUS OF THE INQUIRY

Mr. Strong has discussed with you some of the general features of this problem, and now I should like to describe briefly how the Air Force has organized its study of reports on unidentified flying objects and outline its methods.

The administrative unit now handling the Air Force inquiry on these phenomena is the unidentified Flying Objects Section of the Aircraft Propulsion Branch of the Technical Analysis Division of Air Technical Intelligence Center, Wright Field.

This small section is headed by an Air Force Reserve Captain, E. J. Ruppelt assisted by two lieutenants and two secretaries. It is from this small group that the controling collection directive to the entire Air Force originated and it is to this small group that the flood of reports on unidentified flying objects comes for collation and analysis.

The strength and position of this central administrative group clearly indicates a low level of support, and, presumably, serious reservations in the Air Force regarding the value of extensive inquiry into the subject. Paradoxicall

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this central effort at ATIC is maintained on a minimal basis while there is concurrently ordered a world-wide reporting system and an interception program which may expend hundreds of man hours and thousands of dollars.

The methods used by Air Force are now in the process of change but the conclusions and explanations given to the public are based on the process I am going to describe.

Research and analysis at this time is limited almost exclusively to the case history method. Reports, which are limited in their coverage to ten broad elements of information, are received from the field, mainly through the Air-intelligence reporting system, though also to a limited extent from the other services and from the Department of State.

These reports come to the Unidentified Objects Section where each one is examined separately to determine whether it is explainable as "misinterpretations of a known object", or whether it must be classed as "unexplained." and subject to further investigation.

In this sorting process, the reports are first examined in the light of established and readily available fact such as known balloon tracks or aircraft flights. The report may then be referred to an Air Force Base or to the Office

of Special Investigation for direct interrogation of the reporter. Also, in some cases the reports are referred to technical or scientific specialists for interpretation. It should be borne in mind that this is all on an individual case basis.

There has been no systematic or extensive use of other standard methods of processing data. It is true that there have been a few attempts to examine some of the broader questions that have been raised by these reports. ATIC has, for example, laboriously gone through the accumulation of "unexplained" US reports one by one, to plot them on a map. These plots show a high incidence of reported cases near atomic installations and Strategic Air Command bases but this might be expected because of the greater number of alert observers in such places. Actually, a number of accepted research techniques that should be used in any effort to gain a sound understanding of these phenomena, have not been employed.

There is, of course, some doubt regarding the extent and kind of effort required for the future. The Air Force has not yet found any great cause for concern. Captain Ruppelt remarked that, as the problem seems to be of more concern to operations than to intelligence, it might appropriately be moved out of intelligence to some operational command. (Within the last two weeks, he

[redacted]

has tried, unsuccessfully, to hand the baby to Air Defense Command.)

Of the essential processes that might be used if Air Force considered the inquiry worth a full blown effort, we could list the following:

Research objectives should be defined in detail in relation to the questionnaire. The questions asked in the present collection directive are admitted to be inadequate even for the limited case-history approach. Further, the answers are not processed in such a way as to easily permit the determination of the lines of research and analysis that should be followed.

As there has been no preliminary determination of areas of most profitable research, there is no way at this time by which to isolate the important elements in each of the problem areas. No studies have been made, for example, to establish categories of the objects reported by shape, size, color, etc. or to show such things as shortest, longest and average duration of sightings of objects of various kinds.

These deficiencies have conspired against making cross-comparisons. There have been no studies, for example, that would compare certain weather conditions with the appearance of certain colors of lights.

[redacted]

[redacted]

There are a number of standard analytical processes that might be used if ~~Air Force~~ this problem should be considered ~~the inquiry~~ worth a full blown effort. It might define in detail the research objectives to be used in relation to the questionnaire.

After the areas of most profitable research had been determined, a logical nex step would be to isolate the important elements in each problem area.

A third step would be to set up means by which to make a number ~~many~~ useful cross-comparisons. ~~Fourth~~ Finally, trend studies as well as area studies could be made.

Finally, there might be an objective study on the attributes of available data.

In summary, the limited central administrative support given to the project by Air Force, coupled with the extremely limited scope of the analytical work done thus far, has placed a strict ceiling on the kind of interpretations that can be made from material now available.

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[redacted]

Trend studies as well as area studies could be made. There is now no picture of how the various phenomena may have formed patterns, either as regards aggregation or dispersal over specific periods of time.

Finally, there might be an objective study on the attributes of available data. Thus far, reports themselves (not factors present within those reports) are only classed "explainable" or "not explained". It is not known to what extent, or where, elements of consistency may extend through both the collection of "explainable" and "not explained" reports.

Also, there is no means by which to sort out valid elements from otherwise "unreliable" reports, nor is there a means by which to sort out invalid elements from otherwise accurate reports. An illustration of a consequence of this limitation would be the probable unhappy fate of a valid report on what was actually anionized cloud, when observed on a well established balloon track. It would, in all probability be classed "explainable" as a balloon. The relegation of this report to the "explained" category would take any valid elements present in the report out of the reach of later analysis.

In summary, the limited central administrative support given to the project by Air Force, coupled with the extremely limited scope of the analytical work

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done thus far, leads us to believe that any broad conclusions presently drawn can be accepted only with caution.

As to the future, a limited amount of improvement may be accomplished. A revised questionnaire, now being designed by Air Force and Battele Institute experts will give more detail to each case-history. We have heard informally, though, that many objects are not reported in Korea because of the burden of required paper-work. A longer questionnaire would make pilots even more reluctant to report their sightings. Also, many cross comparisons will be possible if present plans to use punch cards are carried out. In addition, improvements may be expected if Air Force follows through on its present plan to establish an advisory board of top level scientists. Further, the current plan to place emphasis on using instrumentation such as refraction grid cameras and new type Schmidt telescopes, will yield more usable facts. The absence thus far, however, of a well planned and properly guided research program makes it appear that it may be some time in the future before we can expect complete explanations of many of these phenomena.

For the next part of our presentation, Mr. Durant will discuss some of the factors that have been found, or may be involved, in these reports.

[redacted]

Part I - Weather Balloons

1. In the analysis of Flyobrpts prior to 1 Jul 52 approximately 15% were classified as "possibly" or "probably" balloon. The basis for decision was generally little more than a form of guesswork; if the Flyobrpt did not do anything, and much leeway was allowed for observer's fallibility, that a balloon could not do in maneuvers, speed, etc., and if the description corresponded even roughly to that of a balloon, it was so classified. If there was no particular reason to believe a balloon was in the area, the report became a "possible". If the sighting occurred near a balloon launching site or on or about the launch time, it became a "probable". It was obvious that an effort to obtain factual data to support such conclusions was in order.

2. ATIAA-5 approached the problem of weather balloons first. Weather balloons are of the following types:

a. Radiosonde - Rubberized tan latex, 6' in diameter at launch, up to 20' at altitude. Carries a transmitter and telemetering device for temperature pressure, dewpoint sequences, which transmitter under certain conditions would give radar returns. Also carries a white running light during night launches battery operated, which should last for duration of flight. Normal ascent is to 70,000' - 100,000', at ± 1,000 ft/min, at which altitude the balloon bursts and equipment recovery is effected by a red parachute.

b. Rawin - Same balloon as above, but it carries only a radar "triangle", and is a winds aloft observation.

c. Rawinsonde - Same, a combination of rawin and radiosonde.

d. Ratal - Same type of balloon, tracked by theodolite for winds aloft observation.

e. Pibal - A rubberized tan latex balloon, 30" in diameter at release and 4 or 5' at altitude. Burst and climb comparable to radiosonde. A winds aloft observation, tracked by theodolite. Carries running light for night launches.

All types of balloons are launched at 0300Z, 0900Z, 1500Z and 2100Z daily. However, some stations launch one, two, three, or four times daily; others launch irregularly, some launch only one type, and others several or all. In addition, time of launch may vary approximately thirty minutes from the scheduled time, either way. All agencies which launch balloons are quick to admit that balloons can malfunction and that many are lost. In addition, wind currents at altitude can cause the balloons to assume odd shapes and strange maneuvers. The balloons under certain atmospheric conditions can appear to be almost any color, and may be visible even at extreme altitudes, particularly at sunrise and sunset, to an observer on the ground.

3. ATIAA-5, faced with this situation, compiled in July a file of balloon launch data cards for Air Weather Service, Naval Air Weather Service, and Weather Bureau launch stations. In addition, this information is pictured graphically on the weather balloon launch location chart. Combining this information with the winds aloft data which ATIC receives from the facsimile charts has often provided a solution to Flyobrpts. Significantly, balloons, possible and probable, increased from 15% in June to 30% in August, with 24% in July. The percentage of reports analyzed as "unknown" decreased proportionately. This gain is a real one, and results from the accumulation of the background data and the elimination of guesswork.

4. The actual radiosonde meteorological information is extracted by all agencies launching balloons onto WBAN 31a, 31b, and 31c. For winds aloft observations, all agencies use WBAN 20 and 20a, and these forms also include the track of the balloon. All agencies forward these records to the National Weather Records Center, Grove Arcade Building, Asheville, North Carolina. ATIAA-5 has requested the CO, AWS, which maintains a detachment at Asheville, to permit "Blue Book" to deal directly with Asheville. The intention is to request photostats of the sounding (WBAN 31a, b, c) and the balloon track (WBAN 20 and 20a) at certain specific times and places. If this is approved, ATIC will be in a position to obtain these records for every balloon flight launched in the U.S., from overseas American bases, and from all the U.S. ships and weather stations at sea. In addition, ATIAA-5 will continue to use the balloon launch information available in this office and will from time to time TWX various launch sites for specific information. These methods of approach will solve the problem of weather balloons.

Part II - Upper Air Research Balloons

1. Specially designed types of balloons are used by the USAF and the U.S. Navy in cooperation with various contractors to obtain upper air data for scientific purposes. There is no doubt that these balloons cause Flyobrpts; tracking data of eleven such flights in July resulted in positive identification in three cases, probable identification in three more. The U.S. Navy, through its field representative of ONR at the University of Minnesota, deals with three contractors. The balloons released are large white polyethylene types capable of expanding to 100' in diameter and carrying up to 500 pounds of metallic equipment. Valve and inflation arrangements control floating altitudes. Naturally, they are visible even at extreme altitudes under many conditions and are capable of assuming almost any shape. The contractors often release from time to time free or attached clusters of the RA and P type rubberized balloons, as well.

2. These flights are often of long duration; one Minneapolis released balloon was tracked to Cape Cod and lost, then it was recovered in Bordeaux, France. They are tracked by ten RDF stations throughout the United States.

3. ATIAA-5 has taken steps to set up a reporting system for all balloon flights of the Navy contractors. This program will be implemented 15 Oct 52 and will permanently solve the problem of U.S. Navy upper air research balloons.

4. The USAF operates two projects, "Gopher" and "Moby Dick", which involve the release of the large polyethylene type balloons. In all particulars, flight durations, tracking methods, etc., those flights are comparable to the U.S. Navy projects. At present, ATIAA-5 has no communication or liaison with these projects, but ATIAA-5 intends to use the same approach and reporting systems with the USAF projects as with the Naval contractors.

Conclusion:

By 1 Nov 52 ATIAA-5 should be receiving complete data on all weather, Navy upper air, and USAF upper air balloon releases.

Note:

This paper is a short introduction to the "balloon phase" of Project Blue Book. For anyone desiring the complete information, such as agencies and personalities involved, channels and methods of communication, etc., it will be necessary to read the following supporting papers which are on file in ATIAA-5.

a. Balloon Data Folder

b. Miscellaneous Correspondence File - Letter 5 Sep 52, to: USAF Cambridge Research Center, Cambridge, Massachusetts, subj: Air Force Upper Air Research Balloon Releases, and first indorsement thereto.

c. Air Weather Service Correspondence File - Letter 22 Sep 52, to: CG, AWS, subj: Climatology Data for Project Blue Book.

d. U.S. Navy Correspondence File - Letter, 9 Sep 52, to: Air Branch, ONR, subj: ONR Upper Air Balloon Projects, and ONR answer thereto.

e. Travel Report - Lt A. G. Flues, 25 Aug 52 to Washington, D.C.

f. Travel Report - Lt A. G. Flues, 15 Sep 52, to Asheville, N.C.

g. Travel Report - Lt A. G. Flues, 30 Sep 52, to Minneapolis, Minnesota.

(8)

Dr. Thorton Page
Johns Hopkins University
Baltimore, Maryland

Dear Dr. Page:

You will recall in January 1953, we constituted a Scientific Advisory Panel on Unidentified Flying Objects with Drs. H. P. Robertson as Chairman, Samuel Goudsmit, Luis W. Alvarez, Lloyd V. Berkner, and yourself as members. After its deliberation, the Panel reached two conclusions and made two recommendations which were included as Tab A of the report. Very recently, the Air Force has requested that the conclusions of this report be declassified so that they may be used in the press. A copy of the report is enclosed herewith for your information.

I have discussed this matter with Dr. Robertson and Dr. Goudsmit who agree that the conclusion contained in paragraph 2 and the recommendation contained in paragraph 4a can be declassified. But, they, as well as this Agency, will not agree to a declassification of the conclusion in paragraph 3 or the recommendation in paragraph 4b. It is our feeling that the association of the Panel with this Agency should not be disclosed; that paragraph 1 could be rewritten to eliminate this connection; and that the final six lines of paragraph 4 can stand as written.

I have queried the Air Force as to whether the names of the Panel members would be used. They have replied that names would be used only within official circles and would not be given to the press. But, as such information has a tendency at times to filter out, it should be recognized that, if approval is given for use of the names, they may well become common knowledge.

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It would be very much appreciated if you could let me know as soon as possible what your reaction is to the Air Force declassification proposal; whether you agree with Dr. Robertson, Dr. Goudsmit and myself on limiting any declassification; and whether you would approve or disapprove the use of your names, granted that Agency connection with the Panel is withheld.

Sincerely,

Philip G. Strong
Deputy Assistant Director

Enclosure
UFO Report (redacted)

Dr. Lloyd V. Berkner
President
Associated Universities, Incorporated
Room 6920
350 Fifth Avenue
New York 1, New York

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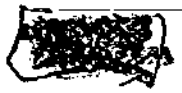

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Very best regards.

Sincerely,

Philip G. Strong
Deputy Assistant Director

Enclosure
UFO Report (Secret)

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[redacted]

6 January 1953

MEMORANDUM FOR RECORD

SUBJECT: Telephone Conversation with Dr. John A. Wheeler

1. At 1430 today I called Dr. Wheeler at Princeton, New Jersey (12300) to thank him for his interest in possible affiliation as a consultant in the CIA attack on the "flying saucer" problem. I told him we regretted that the urgency of his current work for AEC (MATTERHORN) prevented association at this time.

2. Dr. Wheeler stated that he might not be able to actively assist even after March 1953 because of his work on "particle research". However, he would be pleased at any time to discuss the matter briefly. He mentioned two foreign nationals who were currently outstanding in related fields. One was Dr. Chapman, a British subject who is an authority on the aurorae and its associated "mysterious problems" of "ion path" and "magnetic focussing". Dr. O'Day (Director of Research at Cambridge, Massachusetts USAF Research Center) might be able to suggest U. S. subjects in this field. It appears that the Air Force has been studying upper atmospheric phenomena there with considerable vigor. Dr. Chapman's believed to be currently at Cambridge University, England.

3. Another suggestion was Dr. Hannes Alfven, an "original thinker and outstanding researcher". He has written "Cosmological Electrodynamics", Oxford University Press. Dr. Wheeler thought some method of using one or both of these men might be devised through a "cut out", assuming the problem continued for an appreciable length of time and scientific attack was warranted.

F. C. DURANT

B-3

OSI/FCDurant:bm

Distribution:
Orig - Subject file
1 - Daily reading file
1 - Chrono file

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Memorandum for file OSI-W/A 21 January 1953

Meeting of OSI Advisory Group on UFO
January 14 thru 17, 1953

Declassified by 058375
date 20 APR 1977

At 0945 on January 14, 1953, an ad hoc panel of scientific consultants was convened to review the "Unidentified Flying Objects" problem. A detailed statement of the problem presented to the group by CIA is attached as Appendix A. The panel consisted of the following:

Dr. Robertson, CIT
Dr. Luis Alvarez
Dr. S. Goudsmit, Brookhaven
Dr. Thornton Page, ORO Johns Hopkins
Dr. J.A. Hynek, consultant to ATIC.

The following members of the staff of OSI were present for various parts of the discussions.

Dr. H.M. Chadwell
R.L. Clark
P.G. Strong
F.C. Durant III
Lt. Col. Oder (P&E)
D.B. Stevenson (Weapons)

To assist the scientific panel in its review and analysis of evidence, Capt. E. J. Ruppelt of ATIC, Lt. Neasham and Mr. H. Woo of the Navy photo interpretation lab at Anacostia, and Major Fournet and Capt. Smith of Air Force Directorate of Intelligence were present.

A final report on the results of the meeting is being prepared for the AD/SI by F.C. Durant but it is believed that the following is a fair statement of the conclusions reached:

1. No evidence is available to indicate any physical threat to the security of the United States.

2. No evidence is available to indicate the existence or use of any as yet unknown (to us) fundamental scientific principles.

3. The subject "UFO" is not of direct intelligence interest. It is of indirect intelligence interest only insofar as any knowledge about the innumerable unsolved mysteries of the universe are of intelligence interest.

4. The subject "UFO" is of operational interest for three reasons:
   (a) Interference with air defense by intentional enemy jamming or by lack of ability on the part of operating personnel to discriminate between radar anomalies and actual airborne weapons
   (b) Related to (a), interference with air defense by overloading communication lines from the air defense observation stations.
   (c) Possibility of a psychological offensive by the enemy timed with respect to an actual attack could conceivably seriously

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Dr. S. Goudsmit, Brookhaven
Dr. Thornton Page, ORO Johns Hopkins
Dr. J.A. Hynek, consultant to ATIC.

The following members of the staff of OSI were present for various parts of the discussions.

Dr. H.M. Chadwell
R.L. Clark
P.G. Strong
F.C. Durant III
Lt. Col. Oder (P&E)
D.B. Stevenson (Weapons)

To assist the scientific panel in its review and analysis of evidence, Capt. E. J. Ruppelt of ATIC, Lt. Neasham and Mr. H. Woo of the Navy photo interpretation lab at Anacostia, and Major Fournet and Capt. Smith of Air Force Directorate of Intelligence were present.

A final report on the results of the meeting is being prepared for the AD/SI by F.C. Durant but it is believed that the following is a fair statement of the conclusions reached:

1. No evidence is available to indicate any physical threat to the security of the United States.

2. No evidence is available to indicate the existence or use of any as yet unknown (to us) fundamental scientific principles.

3. The subject "UFO" is not of direct intelligence interest. It is of indirect intelligence interest only insofar as any knowledge about the innumerable unsolved mysteries of the universe are of intelligence interest.

4. The subject "UFO" is of operational interest for three reasons:
   (a) Interference with air defense by intentional enemy jamming or by lack of ability on the part of operating personnel to discriminate between radar anomalies and actual airborne weapons
   (b) Related to (a), interference with air defense by overloading communication lines from the air defense observation stations.
   (c) Possibility of a psychological offensive by the enemy timed with respect to an actual attack could conceivably seriously

[redacted] ...ORDATION

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191-A

reduce the defense effort of the general public.

It is noted that these general conclusions as stated here do not specifically answer the needs presented in Appendix A. However, it is anticipated that comment on these points will be presented in a written statement from the scientific panel to AD/SI.

[DBS:gl] (typed 12 February 1953)

(33)

[redacted]

3-6279

JAN 9 1953

MEMORANDUM FOR: Director of Central Intelligence

THROUGH : Deputy Director (Intelligence)

FROM : Assistant Director, Scientific Intelligence

SUBJECT : Consultants for Advisory Panel on Unidentified Flying Objects

1. PROBLEM

To obtain the services of Dr. Luis W. Alvarez and Dr. Thornton Page as ad hoc consultants to the O/SI Advisory Panel on "Unidentified Flying Objects", scheduled to convene 14 January 1953.

2. ASSUMPTIONS

It is assumed that Dr. Alvarez and Dr. Page will accept employment as consultants.

3. FACTS BEARING ON THE PROBLEM

a. Item 3 of the Minutes of IAC Meeting, 4 December 1952, states that: "The (Agency) will enlist the services of selected scientists to review and appraise the available evidence (of "unidentified flying objects")...."

b. Dr. Luis W. Alvarez is an outstanding scientist in the fields of radar operation, characteristics and anomalies.

c. Dr. Thornton W. Page is a particularly competent astronomer and astrophysicist. Moreover, he has given considerable thought to the subject of "unidentified flying objects".

4. DISCUSSION

a. Every effort has been made to consider the most competent scientists whose dispositions are suitable to this complex study. It is believed that the above men would be eminently satisfactory for the task.

b. A check of the Consultants' Registry disclosed that consultants presently employed by CIA either did not have the proper qualifications or were currently unavailable.

MEMORANDUM FOR: Director of Central Intelligence

THROUGH : Deputy Director (Intelligence)

FROM : Assistant Director, Scientific Intelligence

SUBJECT : Consultants for Advisory Panel on Unidentified Flying Objects

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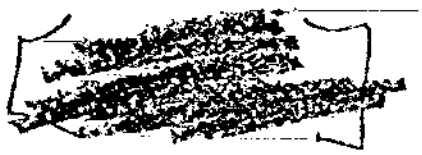

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[redacted]

c. At this time it is desired to utilize the services of these men in this advisory panel only rather than process them as regular CIA consultants.

d. The rate of compensation is expected to be $50.00 per day for each consultant.

e. Approval of use of these men on matters through SECRET has been obtained from I/SO.

5. CONCLUSION

It is concluded that Dr. Alvarez and Dr. Pago are particularly well suited to serve on the O/SI Advisory Panel on "Unidentified Flying Objects".

6. ACTION RECOMMENDED

That permission be granted to approach Dr. Luis W. Alvarez and Dr. Thornton W. Page with regard to service as ad hoc consultants on the subject of "unidentified flying objects" and to initiate the necessary personnel action.

H. Chadwell
H. MARSHALL CHADWELL

B-3

APPROVAL RECOMMENDED:

Signature: [signature] 9 Jan 53
Deputy Director (Intelligence) Date

ACTION BY APPROVING AUTHORITY:

Approved (~~disapproved~~), subject to security clearance.

Signature: [signature] JAN 20 1953
Director ~~or Deputy Director~~ Date

1 - subject - Flying Saucers ✓
1 - chrono -
1 - daily reading + file SCP
1 - extra -2-

Dist.
Orig + 4 - [illegible]
1 - AD/SI
3 - CPO/SI

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JAN 9 19[illegible]

[illegible]

1. [illegible]

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3. [illegible]

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B-3

[illegible]

Signature: ______________________ ______________
[illegible] Date

[OSI/[illegible]] B-3

Distribution:
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JAN 9 1972

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1\. [illegible]

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3\. [illegible]

[signature]

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[illegible]

Signature: ______________________ ______
[illegible] Date

[OSI/TODment] B-3

Distribution:
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2 3 - Omc/SI [redacted]

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[illegible]	[illegible]	[illegible]
	TOTAL	5,[illegible]

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[illegible]	[illegible]	[illegible]
	TOTAL	[illegible]

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(29)

FORM NO. 64

SECRET
SECURITY INFORMATION

Office Memorandum • UNITED STATES GOVERNMENT

TO : DAD/SI

DATE: 9 December 1952

FROM : H. U. Graham

b3

SUBJECT: FCC Monitoring and Flying Saucers.

1. In accordance with your request, I interviewed Mr. Irving Weston of the Field Engineering and Monitoring Division of the FCC to determine whether the Commission at present has any knowledge of unexplained radio signals which might possibly be connected with unidentified flying saucers. His answer was no.

2. Unless such signals were reasonably persistent or were causing interference to established services, it is unlikely that they would be intercepted, or if intercepted, the subject of inquiry. This is because the stations are, in general, involved in special assignments and have a minimum of time for general cruising of the spectrum.

3. The Commission has operating 12 full time monitoring stations and 6 part time monitoring stations. Two (2) of the stations are in Alaska and one (1) in Hawaii. Because of the short range of frequencies above 30 mc/s., monitoring between 30 and about 200 mc/s. is confined pretty much to transmitters in the immediate vicinity. Most of the monitoring stations have equipment for higher frequencies, including the AN/APR-4 receiver, but make little use thereof. VHF monitoring is done to some extent by traveling inspectors with automobile receivers. It seemed likely using the example of the concerted effort to identify the first diathermy signals back in 1935 and the more recent efforts which preceded the explanation of the VHF "bursts", that any persistent occurrences of radio signals that might come from flying saucers, if below 30 mc/s., would soon be the object of considerable interest at the FCC and elsewhere.

4. The FCC maintains a file in the Briggs Building of all reported intercepts of all its monitoring stations by frequency and by call letters extending back three or four years. This file is particularly valuable in the recognition of new signals which may be reported. Information tabulated includes frequency, call letters, type of emission, service, monitoring station reporting, and an intercept supporting the identification.

5. Classification of the discussion was considered Secret.

H. U. GRAHAM

b3

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DATE: 9 December 1952

FROM : H. U. Graham

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H. U. Graham

b3

[redacted]

Declassified by 058375
date 20 APR 1977

MEMORANDUM FOR: The Director of Central Intelligence

THROUGH: Deputy Director (Intelligence)

SUBJECT: Unidentified Flying Objects

REFERENCE: Request of the Director of 10 December 1952

1. The following is a summary of the current situation with respect to the investigation of unidentified flying objects. Recent incidents include:

a. Movies of ten (10) unidentified flying objects (unexplained on the basis of natural phenomena or known types of aircraft), near Tremonton, Utah, on 2 July 1952.

b. A very brilliant unidentified light over the coast of Maine for about four hours on the night of 10-11 October at a height computed to be two or three times that which can be sustained by any known device.

c. Alleged contact with a device on the ground in Florida late this summer which left some presently unexplained after-effects.

d. Numerous other sightings of lights or objects which either in configuration or performance do not resemble any known aerial vehicle or explainable natural phenomena.

2. In furtherance of the D/C action on 4 December, O/SI has been working with Dr. H. P. Robertson, consultant (former Director of Research, WSEG), toward establishing a panel of top scientists and engineers in the fields of astrophysics, nuclear energy, electronics, etc., to review this situation. Wholehearted cooperation has been secured by DI/USAF and ATIC, and a visit by AD/SI, Dr. Robertson, and Mr. Durant of SI to ATIC is planned for Friday. It is hoped to organize the panel and undertake substantive scientific review of this subject within the next two to three weeks.

H. MARSHALL CHADWELL
Assistant Director
Scientific Intelligence

Distribution:

date 20 APR 1977

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Assistant Director
Scientific Intelligence

Distribution:
DD/I - 1
Opns/SI - 1
Prod/SI - 1
AD/SI - 2

[redacted]

OSI:RLC/mtw (10Dec52)

32

191-B

[redacted]

30 January 1953

MEMORANDUM FOR RECORD

SUBJECT: Briefing of ONE Board on Unidentified Flying Objects

1. The subject briefing was given by Mr. P. G. Strong, assisted by Mr. F. C. Durant, at 1000 hours, 29 January. A history of O/SI interest in and action on this subject was followed by a showing of the motion picture films of sightings at Tremonton, Utah, and Great Falls, Montana. Copies of the Report of the Scientific Advisory Panel on Unidentified Flying Objects had previously been made available to the Board. This briefing was given for background prior to the ONE requested briefing by ATIC scheduled for 0900, 30 January.

2. ONE personnel briefed were as follows:

Admiral Bernhard Bieri
Dr. Edgar Hoover
General H. R. Bull
Ambassador Nelson Johnson
Mr. William Bundy
Dr. Abbot Smith
Dr. Ludwell Montague
Mr. Willard Matthias
Dr. De Forest Van Slyck
Dr. R. J. Sontag
P. A. Borel

O/SI, was also present.

F. C. DURANT

OSI/FCDurant:m

Distribution:
Orig - Subject file
1 - Production
1 - Daily reading file
1 - Chrono

[redacted]

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F. C. DURANT

OSI/FCDurant:km

Distribution:
Orig - Subject file
1 - Production
1 - Daily reading file
1 - Chrono

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200

6 February 1953

Bureau Chiefs

Chief, FBIS

Unidentified Flying Objects

The following summary is being disseminated to the field as a matter of general information and interest:

1. The following conclusions are presented by a panel of Scientific Consultants called upon to evaluate any possible threat to the national security posed by Unidentified Flying Objects (Flying Saucers):

a. Evidence presented on Unidentified Flying Objects shows no indication that they constitute a direct physical threat to the national security, nor is there evidence that the phenomena indicate a need for the revision of current scientific concepts.

b. Continued emphasis on the reporting of this phenomena does constitute a threat to the orderly functioning of the protective organs of the nation. Examples: channels of communications are clogged by irrelevant reports; continued false alarms lead to the ignoring of real indications of hostile actions; creation of a morbid national psychology in which skillful hostile propaganda could induce hysterical behavior and harmful distrust of duly constituted authority.

2. To minimize the concomitant dangers above and to strengthen national stability so that true indications of hostile actions may be recognized and appropriately handled the Panel recommends:

a. That the national security agencies take immediate steps to strip the Objects of the special status they have been given and the aura of mystery they have acquired.

b. That the national security agencies institute policies on intelligence, training and public education designed to prepare the material defenses and the morale of the country to recognize promptly and react effectively to true indications of hostile intent or action.

c. That an integrated program be designed to reassure the public of the total lack of evidence of hostile forces behind the phenomena, to train personnel to recognize and

[redacted]

T-6

report false indications quickly and effectively, and to strengthen regular channels for the evaluation of and prompt reaction to true indications of hostile measures.

ALAN M. WAKFIELD

[redacted]

(39)

STANDARD FORM NO. 64

[redacted]

Office Memorandum · UNITED STATES GOVERNMENT

TO : P. G. Strong

DATE: 31 March 1953

FROM : F. C. Durant

SUBJECT: Unidentified Flying Objects

1. Jack Heckert telephoned yesterday and told me that O/CI is no longer following reports of U. F. O.'s. Jack has the O/CI file of U. F. O. dispatches and wanted suggestions as to where to send it.

2. O/SI interest in U. F. O.'s is currently centered on Dave Stevenson (Air Branch/Applied Science Division). He is backstopped by Lt. Col. Fritz Oder (Geophys Br/R&D Division). Stevenson has all O/SI files with exception of key documents, Panel Reports, etc. which are in the Operations Staff office.

3. It would seem wise for O/SI to keep a watch on U. F. O. reports in view of possibly greater activity this summer. The following steps are suggested to assign responsibility and insure receipt of intelligence information:

a. Designate Chief, Applied Science Division as coordinator of reports on U. F. O.'s with the suggestion that Mr. David B. Stevenson be named "action man". Carbon copy to Chief, R&D Division would request division support to Stevenson be coordinated by Lt. Col. F. C. Oder.

b. Request O/CI turn files now in custody of John Heckert over to Stevenson for perusal. I believe very little material would be worth saving except as samples of indicative or unusual reports. The rest I recommend be destroyed.

c. Request O/CI Screening Panel (Miss Lowry, I believe) route all future messages pertaining to U. F. O.'s to the Applied Science Division, Attention: D. B. Stevenson, for review.

4. The above method is believed the simplest method for O/SI effectively keeping tabs on the subject. There would be little time required on Stevenson's part to keep himself up to date. In the event of a future flap, his continuing watch should prove valuable in a critical analysis. From time to time he might report orally to you or to me on the status quo but no formal

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[redacted]

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[redacted]

5. If the above plan appears suitable and you so desire, I'll prepare directive memos.

B-3

F. C. DURANT

OSI/FCDurant:bm

Distribution:
Orig and 1 - Addressee
1 - Subject file
1 - Chrono file
1 - Daily reading file

[redacted]

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[redacted]

DRAFT

April 21, 1953

B-3

ITEM FOR DIRECTOR'S LOG

The Administrator of the Federal Civil Defense Administration has written the Secretary of the IAC, under date of 18 April, respecting the report of a panel of scientific consultants on the subject of unidentified flying objects. This report was furnished FCDA under letter of 13 March pursuant to IAC-D-67 (18 February). Administrator Peterson reports his interest in the subject and suggests that a conference be arranged for a full discussion on a mutually satisfactory date.

The correspondence has been referred to OSI, the Office initiating the original report. OSI will work out arrangements with FCDA. Expert advice and appropriate assistance might be provided by CIA.

Richard D. Drain
Secretary
Intelligence Advisory Committee

April 21, 1953

B-3

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Richard D. Drain
Secretary
Intelligence Advisory Committee

[redacted]

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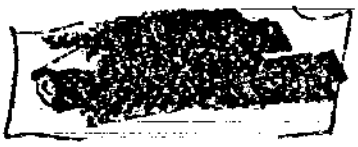

SA-AD/SI
AD/SI

23 April 1953

B-3

MEMORANDUM FOR RECORD

SUBJECT: FCDA Meeting

1. This morning, I called Ted Babbitt about the meeting proposed in the Val Peterson letter. We agreed that he would explore with Mr. Peterson's office as to whether this meeting could be set for April 30th. I told him that Mr. Clark would represent OSI, and would be accompanied by Dr. H. P. Robertson, who served as Chairman of the Panel.

2. I suggested that, if Governor Peterson himself was to be present at the meeting it should be held in his office, but that if he designated somebody it might be more appropriate to have it here in OSI. Mr. Babbitt will try to give me an answer on this today.

PHILIP G. STRONG
Acting Deputy Assistant Director
Scientific Intelligence

Distribution:
Opns/SI - 1
AD/SI - 2
Exec/SI - 1

OSI:PGS/mtw (23 April 1953)

23 April 1953

B-3

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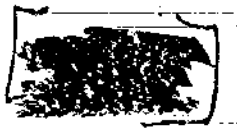
Exec/SI - 1

OSI:PGS/mtw (23 April 1953)



43

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3 December 1952

MEMORANDUM FOR RECORD

SUBJECT: Flying Saucers

1. At 1100 yesterday morning I met with Dr. Julius A. Stratton, Executive Vice President and Provost of Massachusetts Institute of Technology and Dr. Max Millikan, Director of CENIS. I briefed them on the various new reports of sightings including the Limestone Base Case, the Florida Scout Master, the Utah Motion Pictures, etc. I also brought Dr. Stratton up to date on developments which had occurred since our previous discussion of the subject in August. Dr. Stratton reiterated his earlier position that this is a subject which must be investigated and he said that probably the best means of getting a thoroughly competent review of the problem would be through Project LINCOLN. He said, however, that in view of the delicate position in relation to Air Force, as a result of the "Summer Study Report", any acceptance of this project by LINCOLN must be based on Air Force concurrence or on an independent proposal from one of the other services. He said that Alfred Hill would be the best man to head the group. Assuming that it might prove impractical to place the Project at LINCOLN, we explored other possibilities including Princeton and Cal Tech. Dr. Stratton felt very strongly that Cal Tech would be the better of the two in view of the presence there of Robertson, Lauritson, Spitzer (on temporary duty from Princeton), Millikan's brother and others. Dr. Stratton asked particularly that we keep him informed of the progress that we make in having this problem investigated as he is personally very interested as well as fully aware of the potential danger and implications of the situation.

2. Following the meeting with Drs. Stratton and Millikan, I had lunch at the Faculty Club with Lloyd Berkner and Jerrold Zacharias and briefed them on the recent cases and our feelings regarding their implications. Berkner, while apparently not interested in taking a personal part, felt strongly that the saucer problem should be thoroughly investigated from a scientific point of view. Zacharias did not appear to be greatly interested in the problem and made only one suggestion, i.e. that Shirley Quimby of Columbia University be brought into the picture. Quimby took his physics degree at the same time as Zacharias; is now at Columbia University, having during the war been a Navy scientist working on ASW. Zacharias suggested Quimby because the latter is probably the most expert man in the country on magic and general chicanery.

3. My conclusion from these conversations is that it will probably be necessary to secure the full backing of DCI in order that a scientific review of this problem may be laid on. Without this backing, it

3 December 1952

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SUBJECT: Flying Saucers

1. At 1100 yesterday morning I met with Dr. Julius A. Stratton, Executive Vice President and Provost of Massachusetts Institute of Technology and Dr. Max Millikan, Director of CENIS. I briefed them on the various new reports of sightings including the Limestone Base Case, the Florida Scout Master, the Utah Motion Pictures, etc. I also brought Dr. Stratton up to date on developments which had occurred since our previous discussion of the subject in August. Dr. Stratton reiterated his earlier position that this is a subject which must be investigated and he said that probably the best means of getting a thoroughly competent review of the problem would be through Project LINCOLN. He said, however, that in view of the delicate position in relation to Air Force, as a result of the "Summer Study Report", any acceptance of this project by LINCOLN must be based on Air Force concurrence or on an independent proposal from one of the other services. He said that Alfred Hill would be the best man to head the group. Assuming that it might prove impractical to place the Project at LINCOLN, we explored other possibilities including Princeton and Cal Tech. Dr. Stratton felt very strongly that Cal Tech would be the better of the two in view of the presence there of Robertson, Lauritson, Spitzer (on temporary duty from Princeton), Millikan's brother and others. Dr. Stratton asked particularly that we keep him informed of the progress that we make in having this problem investigated as he is personally very interested as well as fully aware of the potential danger and implications of the situation.

2. Following the meeting with Drs. Stratton and Millikan, I had lunch at the Faculty Club with Lloyd Berkner and Jerrold Zacharias and briefed them on the recent cases and our feelings regarding their implications. Berkner, while apparently not interested in taking a personal part, felt strongly that the saucer problem should be thoroughly investigated from a scientific point of view. Zacharias did not appear to be greatly interested in the problem and made only one suggestion, i.e. that Shirley Quimby of Columbia University be brought into the picture. Quimby took his physics degree at the same time as Zacharias; is now at Columbia University, having during the war been a Navy scientist working on ASW. Zacharias suggested Quimby because the latter is probably the most expert man in the country on magic and general chicanery.

3. My conclusion from these conversations is that it will probably be necessary to secure the full backing of DCI in order that a scientific review of this problem may be laid on. Without this backing, it would probably be impossible to secure the Air Force cooperation which would be necessary, particularly in the matter of availability of reports, etc.

b3

[redacted] P. G. STRONG

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1 - Chrono
1 - Daily

OSI/PGS:bxd

28

Paper

[redacted]

Office Memorandum • UNITED STATES GOVERNMENT

TO : Assistant for Operations, OSI
ATT : Mr. Hayden Channing — Release
FROM : Chief, Contact Division, CO

DATE: 9 February 1953

SUBJECT: California Committee for Saucer Investigation

1. Recently, a member of the Los Angeles Office had occasion to hear Dr. Walter Riedel tell something of the activities of the California Committee for Saucer Investigation (CSI). His comments, as follows, may be of interest:

2. Dr. Riedel indicated he was formerly Chief Designer at the German Experimental Rocket Center at Peenemuende. He has been in the US as a "paperclip" scientist for some years. He is now a Project Engineer in the Aerophysics Department (Guided Missiles) of the North American Aviation Corp. He gave every impression of being a competent scientist, especially knowledgeable on rocket matters. He seemed a balanced person, not given to fixations.

3. CSI has been in operation some years, composed of private individuals intrigued and scientifically interested in finding an explanation for "saucer" phenomena. To date, they have received some 1570 letters relating to reported sightings. Of this number, they have been able to immediately or quickly eliminate 75% as not worth follow-up. The great proportion of this 25% have been discarded upon further investigation. What was somewhat surprising to the writer was the exhaustiveness with which these investigations are being made. Not only are very careful calculations made, if the data exists, to check the possibility of the report being physically possible (e.g., in terms of lines of sight), but the individual reporting the sighting is investigated privately at his place of residence to establish a general background of reliability and credibility. Of the 25% investigated, perhaps 25 or so sightings have been established as "reliable" in the sense that no known existing explanation exists for them. Apparently, most of these have been forwarded to Wright Field, Dayton, Ohio, although there appears to be a time lag of some duration while CSI is making its own check and calculations. Dr. Riedel's description of one reported sighting by a TWA pilot and crew, and the follow-up with respect to it, was impressive to the writer in the thought applied, the pains taken, and the very careful application of scientific method.

4. So serious is CSI with respect to its investigation that Dr. Riedel indicated that they are going to execute a planned "hoax" over the Los Angeles area, in order to test the reaction and reliability of the public in general to unusual aerial phenomena. (The sightings reported over Malibu in the Los Angeles papers of 30 Jan 53 could possibly be this hoax.) From this experiment, they hope to ascertain how many people report an aerial visual phenomenon which has been conducted so as to be clearly visible to a large number of people in the area. They will also, of course, be able to test the variation of report details, etc. This experiment is designed to give a better background against which future sightings can be evaluated.

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APPROVED FOR RELEASE
DATE 24 Nov 77

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5. Apparently, an eye and interest are also directed toward the USSR, for reactions to sightings as reported in the PRAVDA are observed. This interest is also evident in the paper entitled "Rockets Behind the Iron Curtain", presented before the annual convention of the American Rocket Society in New York City on 4 December 1952, by George P. Sutton, also of Aerophysics Department (North American Aviation, Inc.) and associated with CSI.

6. Of incidental interest may be the fact that NAA (National Aeronautical Association) suggested politely and perhaps indirectly to Dr. Riedel that he disassociate himself from official membership on CSI.

[redacted]

[redacted]

[redacted]

National Investigations Committee on Aerial Phenomena (NICAP)

Appears to be a fairly loose structure but rather efficient. Stuart Nixon (background in investigative journalism) is currently Executive Director. He along with John Acuff and Charles Miller (=backgrounds unknown) make up the organizations Editorial Review Board which is responsible for policy, including the newsletter, press and other media relations, as well as special reports and programs.

This board relies heavily on both a loosely structured advisory group and a fairly well developed and well placed network of investigators. The advisory group is made up of experts in many disciplines including physics, astronomy, anthropology, medicine and psychology. This group also includes some ex-CIA and Defense Intelligence types who advise on investigative techniques and NICAP / Government relations. There does not seem to be any logical or systematic program by which these advisors are chosen, but rather the procedure seems to be to simply offer one's services to the organization through either Nixon or the Review Board. Often the advisors simply joined NICAP(a rather easy task since all it takes is a specified membership fee) found something out about the organization, and then made their qualifications known to the Review Board.

The system of investigators is a good one. Nxon has divided the country into regions and has established "investigators" in each of the regions. Any member of NICAP is encouraged to request a form by which one can apply for this position. The requirements for the position include a minimum age of 25, formal training or experience in some branch of science, or other specialized background applicable to systematic collection of information, the ability to cover an area of at least 50 miles in diameter or one hour of driving time. As of a few months ago some 35 investigators were located throughout the country, with NICAP in the process of establishing even more. A breakdown of their backgrounds looked like the following: 7 PhDs, 2MAs or MS, 23 BAs or BS, 1AA and 2 with college training but no degrees. Occupationally they included 4 physical scientists, 13 engineers, 3 college profs, 13 specialists, including doctor, technician, computer programmer and businessman. ive of the 35 are pilots. Also utilized as " legmen" for the investigators are investigator assistants. All investigators carry credentials identifying them as investigators for NICAP.

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NICAP currently operates on a $40,000 yr. budget and has 3,500 dues paying members. Both the membership and the budget may be expected to increase xxxxxxxxxx substatially due to the recent UFO flap.

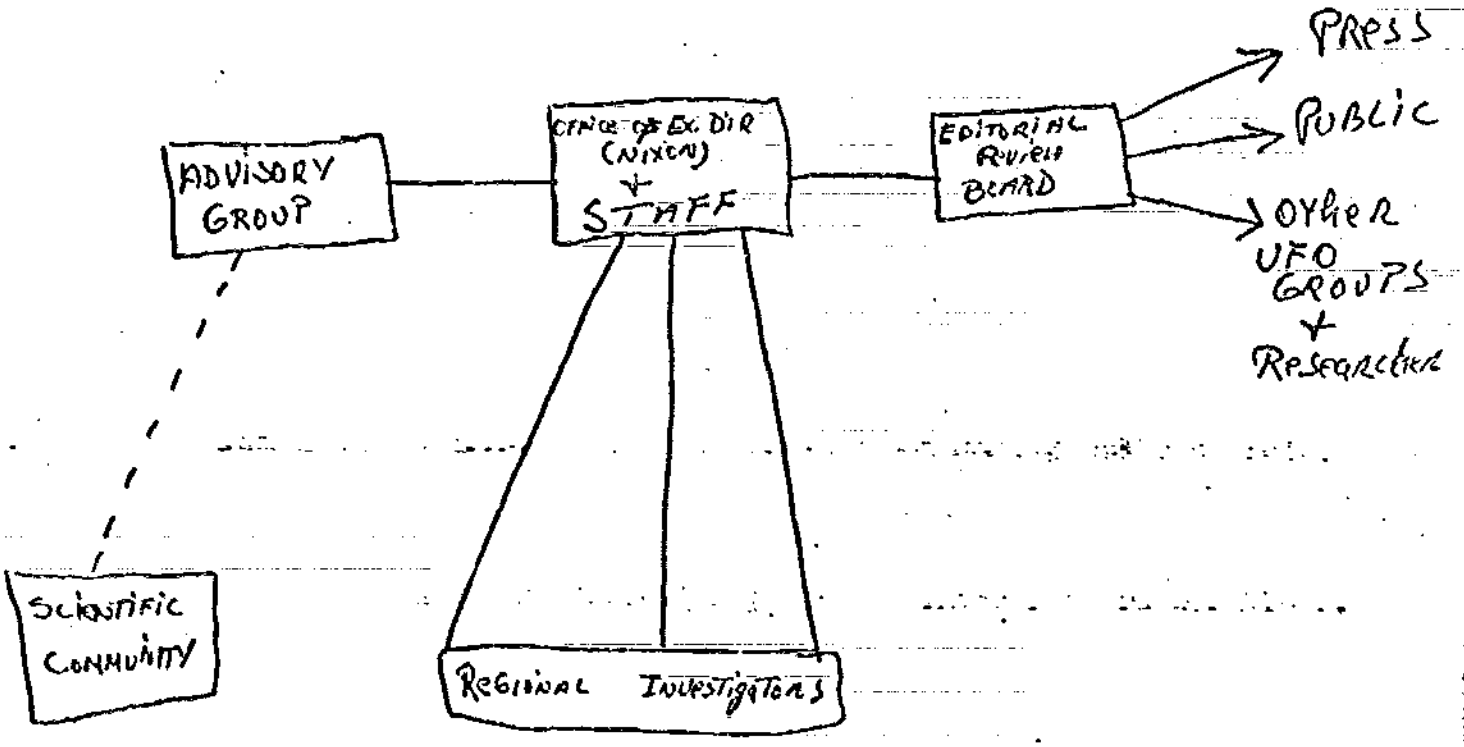
A computer project codenamed "Project Acess" is currently in the mill. An effort is being made to develop some sort of pattern analysis out of the 15, 000 or more raw reports reportedly in NICAP's files. This apparently will take the following form:

1. event- including time, place, terrain, weather, speed, color, ~~ax~~ shape and other information

2. principals-including data on all witnesses and others involved in reports such as bio data, medical info and psychological aspects

3. investigation- including evaluation of reports and special notes from the regional investigator on witness discrepancy in testiony etc...

The following is apparently the ~~xx~~ organizational structure and relationships within NICAP:



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JAN 27 1953

Dr. Julius A. Stratton, President
Massachusetts Institute of Technology
Cambridge 37, Massachusetts

Dear Dr. Stratton:

Remembering your request to be kept informed of any progress in the problem of "unidentified flying objects," this letter will bring you up to date.

Last December, the section of the Air Technical Intelligence Center charged with investigation of reports of sightings presented a status briefing at the Agency. Based upon the evidence presented, the subject was discussed at a December meeting of the Intelligence Advisory Committee (CIA, Army, Navy, Air Force, Joint Staff, State, AEC, and FBI). At that time it was recommended that CIA should assemble a panel of highly qualified personnel to examine the problem and its ramifications. Particular competency in the fields of physics, radar and astronomy was believed desirable.

We were fortunate to obtain the services of especially qualified men, I believe you will agree. Enclosed for your information are copies of the report submitted by the Panel and related material. We concur in the conclusions and recommendations of the Panel, and are forwarding the report to appropriate authorities. Since the problems related to this subject appear to be operational rather than intelligence in nature, we will be concerned only indirectly in the future. However, if there are any developments in which we believe you might be interested, we shall inform you. Incidentally, knowledge of any interest of CIA in the subject of "flying saucers" has been carefully restricted, in view of probable misunderstanding if it were publicly known.

With best wishes,

Cordially yours,

Signed H. Marshall Chadwell
H. Marshall Chadwell
Assistant Director

Enclosures:
1. Panel Report
2. List of Personnel
3. Evidence presented

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Distribution:
Boston Office [redacted] with Enclosures - 1
OO/C, [redacted] no enclosures - 1
OSI:FJD/Siw-(27Jan53)

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Acting Chief, P&E Division, SI
TH STEN: Chief, [illegible] Branch, P&E Division, SI
Lt. Col. F. C. [illegible], CP Branch

27 January 1953

Meetings of OSI Advisory Group on Unidentified Flying Objects, 14-17 January 1953

1. At your request I represented P&E Division at the subject meetings. I was present at nearly all meetings of the group with the exception of the afternoon of Friday, the 16th and the session on Saturday, the 17th. During the latter two sessions the Advisory Group went into executive session for the preparation of their report to AD/SI.

2. The following OSI Consultants formed the Advisory Group:

Dr. H. P. Robertson, Chairman
Dr. Sam Goudsmit
Dr. Louis Alvarez
Dr. Thornton Page (missed morning session on 16th)
Dr. Lloyd Berkner (present only on afternoon of 16th and 17th)
Dr. J. A. Hynek (an ATIC consultant - he sat in all the sessions after the first day, but did not sign the report to AD/SI as an official group member)

3. The following OSI staff members attended:

Dr. H. M. Chadwell (most of the first day only)
Mr. P. G. Strong (first day only)
Mr. F. C. Durant (although now an OSI consultant, he functioned as a staff member for the conference and attended all sessions including the executive session)
Mr. D. B. Stevenson, Weapons Division
Lt. Col. F. C. [illegible], P&E Division

Release

4. The following persons were invited to present certain background information to the Advisory Group:

Captain Edward Ruppelt, ATIC who presented information on the work of Proj. Bluebook (and its predecessors "Grudge", "Sauceer", and "Sign") and discussed in detail many of their specific investigations.

Major Dominic [illegible] (by now on inactive status and with the Ethyl Corp.) who presented findings independent of ATIC, representatives of the Navy Photographic Labs who presented their analysis of films of a "Sighting."

Acting Chief, P&E Division, SI
TH STEM: Chief, [illegible] Branch, P&E Division, SI
Lt. Col. F. C. [illegible] Oder, CP Branch

27 January 1953

B-3

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5. The first business on the agenda was a welcome by and a charge (Att. #1) to the Group by Dr. Chadwell. This was followed by a statement of the CIA interest by Mr. Strong. CIA had been requested by IAC to look into the "flying saucer problem" because of three related national security problems: (a) possible exploitation to produce mass hysteria, (b) the confusions and dangers inherent in observations of "flying saucers" by the U.S. radar and observer system, (c) the danger of "flying saucer reports" overloading the emergency communication facilities of the Department of Defense.

6. Because of the quality of the consultants and the excellence of their introduction to the subject by Dr. Chadwell and Mr. Strong, the Advisory Group never lost sight of its goals inspite of the fact that the discussion took many excursions.

7. The Advisory Group submitted its report to AD/SI on 17 January 1953. Their principal finding was that at the present time the unidentified flying objects pose no threat to the security of the United States. They recommended the establishment of program of education regarding the sightings particularly as concerns the U.S. radar and observer system, and for the general public as well.

8. Most of the CSI files on this subject are being retained in the office of the AD/SI. Weapons Division has a considerable file which according to Stevenson, they would like to dispose of because of the findings of the Advisory Group that "flying saucers" pose no present threat to the United States security. Mr. Durant feels that the material in the Weapons Division file should be maintained in one of the substantive Divisions of CSI and has suggested that PRE Division take them over and maintain them. Mr. Stevenson of Weapons Division currently has the material and estimates that several hours per week will be required to keep it current. He indicates that he is suggesting to Mr. Taugg, Chief of Weapons Division, that PRE Division get the files. I would like to suggest that the Acting Chief, PRE Division discuss this with Mr. Taugg. I personally don't see why PRE Division has any greater interest in this material than Weapons Division.

9. If GP Branch, PRE Division is given the responsibility for the files mentioned in paragraph 8, above, one (1) additional safe will be required.

Release

[illegible]
Lt. Colonel, USAF

FCDO:ss

cc: Orig. & 1 - Div. Off.
1 - DRF
1 - GPF
1 - Originator

[redacted]

CHARTER TO O/SI ADVISORY GROUP ON UNIDENTIFIED FLYING OBJECTS

1. To review available evidence on unidentified flying objects and to consider possible dangers to national security related thereto.

2. To advise concerning the amount and kind of data necessary for a scientific evaluation of these phenomena.

3. In particular to comment on:

a. Validity of current CIA evaluation of related dangers.

b. Methodology and scope of current and planned ATIC investigation.

c. Advisability of further meetings of this group or further review of the subject by a larger panel.

[redacted]

[redacted]

POSSIBLE EXPLANATIONS

A. Hysteria, hallucinations, hoaxes, etc. (Psychological)

B. Misidentifications of conventional objects:

1. Aircraft, missiles, searchlight reflections, etc. (man-made, controlled)
2. Balloons, kites, etc. (man-made, uncontrolled)
3. Birds, bugs, etc. (animal)
4. Dust, seeds (e.g. dandelion), paper, etc. (foreign matter)

C. Natural Phenomena:

1. Light aberrations, reflections, refractions, etc.
2. Anomalous radar propagation.
3. Ionization, static electricity, ball lighting, etc.
4. Planets, meteors and other astronomical bodies.
5. Others.

D. Unconventional man-made devices:

1. US
2. USSR and other foreign

E. Extraterrestrial origin

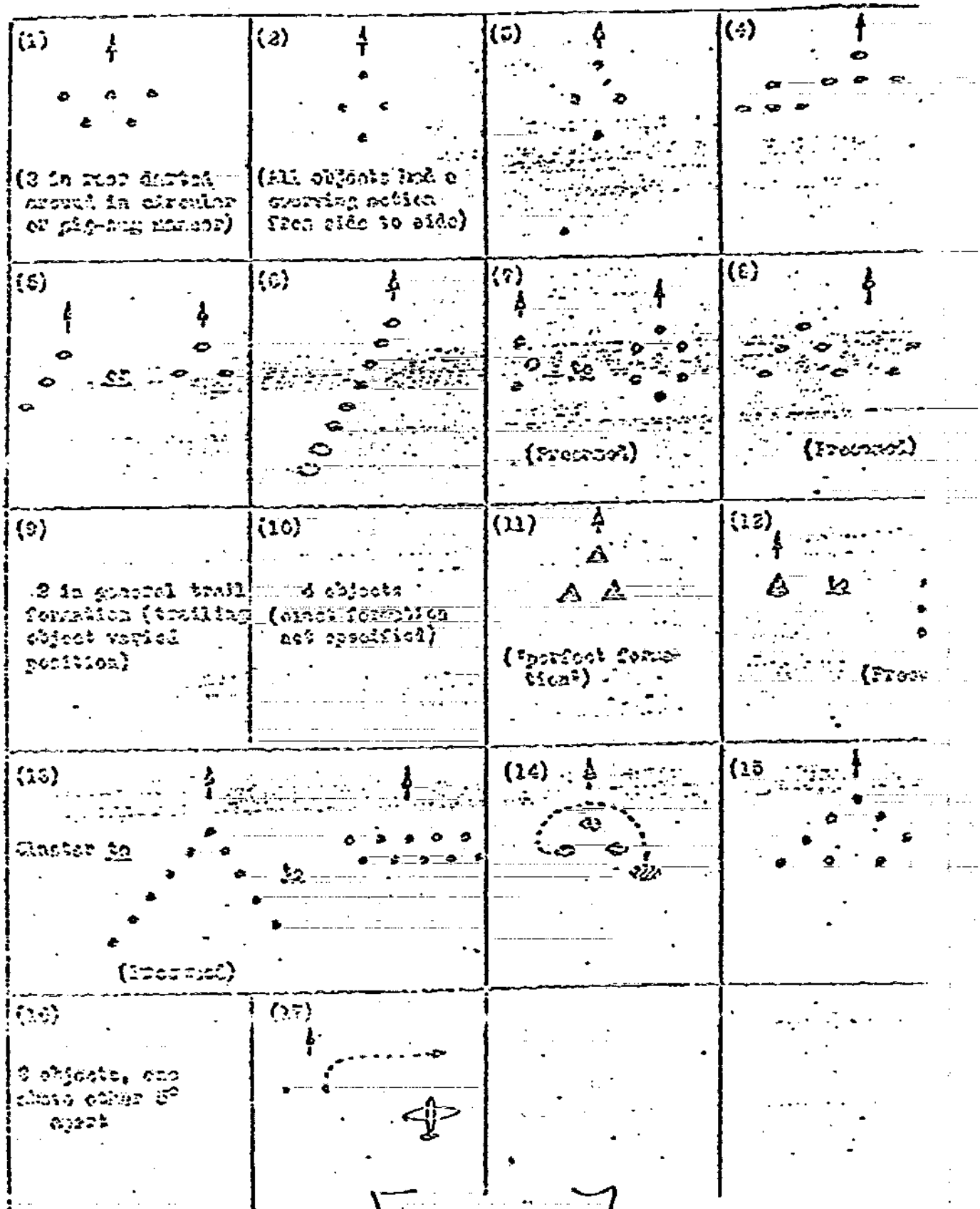
1. Animal
2. Machine

Basis of May Forrestry's presidential to OSI Advis. Gp 14-17 Jan (given on 16 Jan)

[redacted]

[redacted]

FORMATION



~~S-E-C-R-E-T~~
Security Information
IAC-D-67
18 February 1953

INTELLIGENCE ADVISORY COMMITTEE

UNIDENTIFIED FLYING OBJECTS

1. Transmitted herewith is a copy of the report (Tab A) of the scientific panel convened as a result of the action taken by the Intelligence Advisory Committee on 4 December (IAC-M-90, paragraph 3A) on this subject. Attached to the report are a summary of evidence presented (Tab B) and a list of the personnel participating (Tab C).

2. It is proposed to transmit copies of this report to the Secretary of Defense; the Director, Federal Civil Defense Administration; and the Chairman, National Security Resources Board for their information and such action as they may feel necessary.

3. The results of the panel's studies have moved CIA to conclude that no National Security Council Intelligence Directive on this subject is warranted.

4. Please inform the undersigned by 25 February 1953 if you do not concur in the action and conclusions contained in paragraphs 2 and 3, above.

JAMES Q. REBER
Secretary

APPROVED FOR RELEASE: 007789
DATE: 6 October 1978

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~~S-E-C-R-E-T~~
IAC-D-67
18 February 1953

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TAB A

REPORT OF THE SCIENTIFIC PANEL
ON
UNIDENTIFIED FLYING OBJECTS

1. Pursuant to the request of the Assistant Director for Scientific Intelligence, the undersigned Panel of Scientific Consultants has met to evaluate any possible threat to national security posed by Unidentified Flying Objects ("Flying Saucers"), and to make recommendations thereon. The Panel has received the evidence as presented by cognizant intelligence agencies, primarily the Air Technical Intelligence Center, and has reviewed a selection of the best documented incidents.

2. As a result of its considerations, the Panel concludes:

a. That the evidence presented on Unidentified Flying Objects shows no indication that these phenomena constitute a direct physical threat to national security.

We firmly believe that there is no residuum of cases which indicates phenomena which are attributable to foreign artifacts capable of hostile acts, and that there is no evidence that the phenomena indicate a need for the revision of current scientific concepts.

3. The Panel further concludes:

a. That the continued emphasis on the reporting of these phenomena does, in these perlous times, result in a threat to the orderly functioning of the protective organs of the body politic.

We cite as examples the clogging of channels of communication by irrelevant reports, the danger of being led by continued false alarms to ignore real

[redacted]

[redacted]

indications of hostile action, and the cultivation of a morbid national psychology in which skillful hostile propaganda could induce hysterical behavior and harmful distrust of duly constituted authority.

4. In order most effectively to strengthen the national facilities for the timely recognition and the appropriate handling of true indications of hostile action, and to minimize the concomitant dangers alluded to above, the Panel recommends:

a. That the national security agencies take immediate steps to strip the Unidentified Flying Objects of the special status they have been given and the aura of mystery they have unfortunately acquired;

b. That the national security agencies institute policies on intelligence, training, and public education designed to prepare the material defenses and the morale of the country to recognize most promptly and to react most effectively to true indications of hostile intent or action.

We suggest that these aims may be achieved by an integrated program designed to reassure the public of the total lack of evidence of inimical forces behind the phenomena, to train personnel to recognize and reject false indications quickly and effectively, and to strengthen regular channels for the evaluation of and prompt reaction to true indications of hostile measures.

/s/ H. P. Robertson, Chairman
California Institute of Technology

/s/ Luis W. Alvarez
University of California

/s/ Lloyd V. Berkner
Associated Universities, Inc.

/s/ S. A. Goudsmit
Brookhaven National Laboratories

/s/ Thornton Page
Johns Hopkins University

[redacted]

[redacted]

TAB B

SCIENTIFIC ADVISORY PANEL ON

UNIDENTIFIED FLYING OBJECTS

14 - 17 January 1953

EVIDENCE PRESENTED

1. Seventy-five case histories of sightings 1951 - 1952 (selected by ATIC as those best documented).

2. ATIC Status and Progress Reports of Project GRUDGE and Project BLUE BOOK (code names for ATIC study of subject).

3. Progress Reports of Project STORK (code name for Battelle Memorial Institute contract work supporting ATIC).

4. Summary Report of Sightings at Holloman Air Force Base, New Mexico.

5. Report of USAF Research Center, Cambridge, Mass., Investigation of "Green Fireball" Phenomena (Project TWINKLE).

6. Outline of Investigation of U.F.O.'s Proposed by Kirtland Air Force Base (Project POUNCE).

7. Motion Picture Films of sightings at Tremonton, Utah, 2 July 1952 and Great Falls, Montana, August 1950.

8. Summary Report of 69 selected cases of sightings of various categories (Formations, Blinking Lights, Hovering, etc.).

9. Draft of manual: "How to Make a FLYOBRPT", prepared at ATIC.

10. Chart Showing Plot of Geographic Location of Unexplained Sightings in the United States during 1952.

11. Chart Showing Balloon Launching Sites in the United States.

12. Charts Showing Selected Actual Balloon Flight Paths and Relation to Reported Sightings.

13. Charts Showing Frequency of Reports of Sightings, 1948 - 1952.

14. Charts Showing Categories of Explanations of Sightings.

15. Kodachrome Transparencies of Polyethylene Film Balloons in Bright Sunlight Showing High Reflectivity.

[redacted]

[redacted]

TAB B

16. Motion picture of seagulls in bright sunlight showing high reflectivity.

17. Intelligence Reports Relating to U.S.S.R. Interest in U. S. Sightings.

18. Samples of Official USAF Reporting Forms and Copies of Pertinent Air Force, Army and Navy Orders Relating to Subject.

19. Sample Polyethylene "Pillow" Balloon (54 inches square).

20. "Variations in Radar Coverage", JANP 101 (Manual illustrating unusual operating characteristics of Service radar).

21. Miscellaneous official letters and foreign intelligence reports dealing with subject.

22. Copies of popular published works dealing with subject (articles in periodicals, newspaper clippings and books).

[redacted]

[redacted]

TAB C

SCIENTIFIC ADVISORY PANEL ON

UNIDENTIFIED FLYING OBJECTS

14 - 17 January 1953

MEMBERS	ORGANIZATION	FIELD OF COMPETENCY
Dr. H. P. Robertson (Chairman)	California Institute of Technology	Physics, weapons systems
Dr. Luis W. Alvarez	University of California	Physics, radar
Dr. Lloyd V. Berkner	Associated Universities, Inc.	Geophysics
Dr. Samuel Goudsmit	Brookhaven National Laboratories	Atomic structure, statistical problems
Dr. Thornton Page	Office of Research Operations, Johns Hopkins University	Astronomy, Astrophysics
ASSOCIATE MEMBERS		
Dr. J. Allen Hynek	Ohio State University	Astronomy
Mr. Frederick C. Durant	Arthur D. Little, Inc.	Rockets, guided missiles
INTERVIEWERS		
Brig. Gen. William M. Garland	Commanding General, ATIC	Scientific and technical intelligence
Dr. H. Marshall Chadwell	Assistant Director, O/SI, CIA	Scientific and technical intelligence
Mr. Ralph L. Clark	Deputy Assistant Director, O/SI, CIA	Scientific and technical intelligence

[redacted]

[redacted]

TAB C

INTERVIEWERS (cont'd)	ORGANIZATION	FIELD OF COMPETENCY
Mr. Philip G. Strong	Chief, Operations Staff, O/SI, CIA	Scientific and technical intelligence
Mr. Stephen T. Possony	Acting Chief, Special Study Group, D/I USAF	Scientific and technical intelligence
Capt. Edward J. Ruppelt, USAF	Chief, Aerial Phenomena Branch, ATIC, USAF	Scientific and technical intelligence
Mr. J. Dewey Fournet, Jr.	The Ethyl Corporation	Aero Eng.
Lt. R. S. Heaston, USN	USN Photo Interpretation Laboratory, Anacostia	Photo interpretation
Mr. Harry Wao	USN Photo Interpretation Laboratory, Anacostia	Photo interpretation

[redacted]

COMMENTS AND SUGGESTIONS OF UFO PANEL

General.

The Panel Members were impressed with the lack of sound data in the great majority of case histories. Among the case histories of significant sightings discussed in detail were the following:

Bellefontaine, Ohio (1 August 1952); Tremonton, Utah (2 July 1952); Great Falls, Montana (15 August 1950); Yaak, Montana (1 September 1952); Washington, D.C. area (19 July 1952); and Haneda A.F.B., Japan (5 August 1952), Port Huron, Michigan (29 July 1952); and Presque Isle, Maine (10 October 1952).

After review and discussion of these cases (and about 15 others, in less detail), the Panel concluded that reasonable explanations could be suggested for most sightings and "by deduction and scientific method it could be induced (given additional data) that other cases might be explained in a similar manner". The Panel pointed out that because of the brevity of some sightings (e.g., 2-3 seconds) and the inability of the witnesses to express themselves clearly (semantics) that conclusive explanations could not be expected for every case reported. Furthermore, it was considered that, normally, it would be a great waste of effort to try to solve most of the sightings, unless such

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action would benefit a training and educational program (see below). The writings of Charles Fort were referenced to show that "strange things in the sky" had been recorded for hundreds of years. It appeared obvious that there was no single explanation for a majority of the things seen.

On Lack of Danger.

The Panel concluded unanimously that there was no evidence of a direct threat to national security in the objects sighted. Instances of "Foo Fighters" were cited. These were unexplained phenomena sighted by aircraft pilots during World War II in both European and Far East theaters of operation wherein "balls of light" would fly near or with the aircraft and maneuver rapidly. They were believed to be electrostatic (similar to St. Elmo's fire) or electromagnetic phenomena or possibly light reflections from ice crystals in the air, but their exact cause or nature was never defined. If the term "flying saucers" had been popular in 1943-1945, these objects would have been so labeled.

Air Force Reporting System.

It was the Panel's opinion that some of the Air Force concern over UFO's (notwithstanding Air Defense Command anxiety over fast radar tracks) was probably caused by public pressure. The result today is that the Air Force

has instituted a fine channel for receiving reports of nearly anything anyone sees in the sky and fails to understand. This has been particularly encouraged in popular articles on this and other subjects, such as space travel and science fiction. The result is the mass receipt of low-grade reports which tend to overload channels of communication with material quite irrelevant to hostile objects that might some day appear. The Panel agreed generally that this mass of poor-quality reports containing little, if any, scientific data was of no value. Quite the opposite, it was possibly dangerous in having a military service foster public concern in "nocturnal meandering lights". The implication being, since the interested agency was military, that these objects were or might be potential direct threats to national security. Accordingly, the need for deemphasization made itself apparent. Comments on a possible educational program are enumerated below.

It was the opinion of one of the Panel members that the "saucer" problem had been found to be different in nature from the detection and investigation of German V-1 and V-2 guided missiles prior to their operational use in World War II. In this 1943-1944 intelligence operation (CROSSBOW), there was excellent intelligence, and by June

1944 there was material evidence of the existence of "hardware" obtained from crashed vehicles in Sweden. This evidence gave the investigating team a basis upon which to operate. The absence of any "hardware" resulting from unexplained UFO sightings lends a "will-of-the-wisp" nature to the problem. The results of the investigation, to date, strongly indicate that no evidence of hostile act or danger exists. Furthermore, the current reporting system would have little value in the case of detection of enemy attack by conventional aircraft or guided missiles; under such conditions "hardware" would be available almost at once.

Artifacts of Extraterrestial Origin.

It was interesting to note that none of the members of the Panel were loath to accept that this earth might be visited by extraterrestrial intelligence beings of some sort, some day. What they did not find was any evidence that related the objects sighted to space travelers. One of the Panel members, in his presentation, showed how he had eliminated each of the known and probable causes of sightings leaving him "extra-torrestial" as the only one remaining in many cases. His background as an aeronautical engineer and technical intelligence officer could not be slighted. However, the Panel could not accept any of

the cases cited by him because they were raw, unevaluated reports. Terrestrial explanations of the sightings were suggested in some cases, and in others the time of sighting was so short as to cause suspicion of visual impressions. It was noted by others of the Panel members that extra-terrestrial artifacts, if they did exist, are no cause for alarm; rather, they are in the realm of natural phenomena subject to scientific study, just as cosmic rays were at the time of their discovery 20 to 30 years ago. This was an attitude in which another of the Panel members did not concur, as he felt that such artifacts would be of immediate and great concern not only to the U.S. but to all countries. (Nothing like a common threat to unite peoples!) It was noted that present astronomical knowledge of the solar system makes the existence of intelligent beings (as we know the term) elsewhere than on the earth extremely unlikely, and the concentration of their attention by any controllable means confined to any one continent of the earth quite preposterous.

Tremonton, Utah, Sighting.

This case was considered significant because of the excellent documentary evidence in the form of Kodachrome motion picture films (about 1600 frames). The Panel

studied these films, the case history, ATIC's interpretation, and received a briefing by representatives of the USN Photo Interpretation Laboratory on their analysis of the film. This team had expended (at Air Force request) approximately 1000 man-hours of professional and sub-professional time in the preparation of graph plots of individual frames of the film, showing apparent and relative motion of objects and variation in their light intensity. It was the opinion of the P.I.L. representatives that the objects sighted were not birds, balloons or aircraft, were "not reflections because there was no blinking while passing through 60° of arc" and were, therefore, "self-luminous". Plots of motion and variation in light intensity of the objects were displayed. While the Panel Members were impressed by the evident enthusiasm, industry and extent of effort of the P.I.L. team, they would not accept the conclusions reached. Some of the reasons for this were as follows:

a. A semi-spherical object can readily produce a reflection of sunlight without "blinking" through 60° of arc travel.

b. Although no date was available on the "albedo" of birds or polyethylene balloons

in bright sunlight, the apparent motions, sizes and brightnesses of the objects were considered strongly to suggest birds, particularly after the Panel viewed a short film showing high reflectivity of seagulls in bright sunlight.

c. P.I.L. description of the objects sighted as "circular, bluish-white" in color would be expected in cases of specular reflections of sunlight from convex surfaces where the brilliance of the reflection would obscure other portions of the object.

d. Objects in the Great Falls case were believed to have probably been aircraft, and the bright lights such reflections.

e. There was no valid reason for the attempt to relate the objects in the Tremonton sighting to those in the Great Falls sighting. This may have been due to misunderstanding in their directive. The objects in the Great Falls sighting are strongly suspected of being reflections of aircraft known to have been in the area.

f. The intensity change in the Tremonton lights was too great for acceptance of the P.I.L. hypothesis that the apparent motion and changing

intensity of the lights indicated extremely high speed in small orbital paths.

g. Apparent lack of guidance of investigators by those familiar with UFO reports and explanations.

h. Analysis of light intensity of objects made from duplicate rather than original film. The original film was noted to have a much lighter background (affecting relative brightness of object) and the objects appeared much less bright.

i. Method of obtaining data of light intensity appeared faulty because of unsuitability of equipment and questionable assumptions in making averages of readings.

j. No data had been obtained on the sensitivity of Kodachrome film to light of various intensities using the same camera type at the same lens openings.

k. Hand "jitter" frequencies (obtainable from early part of Tremonton film) were not removed from the plots of the "single pass plots" at the end of the film.

The Panel believed strongly that the data available on this sighting was sufficient for positive identification if further data is obtained by photographing polyethylene "pillow" balloons released near the site under similar weather conditions, checking bird flight and reflection characteristics with competent ornithologists and calculating apparent "G" forces acting upon objects from their apparent tracks. It was concluded that the results of such tests would probably lead to creditable explanations of value in an educational or training program. However, the Panel noted that the cost in technical manpower effort required to follow up and explain every one of the thousand or more reports received through channels each year (1,900 in 1952) could not be justified. It was felt that there will always be sightings, for which complete data is lacking, that can only be explained with disproportionate effort and with a long time delay, if at all. The long delay in explaining a sighting tends to eliminate any intelligence value. The educational or training program should have as a major purpose the elimination of popular feeling that every sighting, no matter how poor the data, must be explained in detail. Attention should be directed to the requirement among scientists that a new phenomena, to be accepted, must be completely and convincingly documented.

In other words, the burden of proof is on the sighter, not the explainer.

Potential Related Dangers.

The Panel Members were in agreement that although evidence of any direct threat from these sightings was wholly lacking, related dangers might well exist resulting from:

a. Misidentification of actual enemy artifacts by defense personnel.

b. Overloading of emergency reporting channels with "false" information ("noise to signal ratio").

c. Subjectivity of public to mass hysteria and greater vulnerability to possible enemy psychological warfare.

The first two of these problems may seriously affect the Air Defense intelligence system, and should be studied by experts, possibly under ADC. If UFO's become discredited in a reaction to the "flying saucer" scare, or if reporting channels are saturated with false and poorly documented reports, our capability of detecting hostile activity will be reduced. More competent screening or filtering of reported sightings at or near the source is

required, and this can best be accomplished by an educational program.

Geographic Locations of Unexplained Sightings.

The map prepared by ATIC showing geographic locations of officially reported unexplained sightings (1952 only) was examined by the Panel. This map showed clusters in certain strategic areas such as Los Alamos. This might be explained on the basis of 24-hour watchful guard and awareness of security measures near such locations. On the other hand, there had been no sightings in the vicinity of sensitive related AE establishments while there were occasionally multiple cases of unexplained sightings in non-strategic areas. Furthermore, there appeared to be no logical relationship to population centers. The Panel could find no ready explanation for these clusters. It was noted, however, that if terrestrial artifacts were to be observed, it would be likely that they would be seen first near foreign areas rather than central U.S.

Instrumentation to Obtain Data.

The Panel was of the opinion that the present ATIC program to place 100 inexpensive 35 mm. stereo cameras (Videon Cameras) in the hands of various airport control tower operators would probably produce little valuable

data related to UFO's. However, it was recognized that such action would tend to allay public concern in the subject until an educational program had taken effect. It was believed that procurement of these cameras was partly the result of public pressure in July 1952. With the poor results of the year-long Project TWINKLE program of 24-hour instrumentation watch (two frames of film showing nothing distinguishable), a widespread program of skywatching would not be expected to yield much direct data of value.

There was considerable discussion of a possible "sky patrol" by amateur astronomers and by wide-angle cameras. It was pointed out that at present a considerable fraction of the sky is now -- and has been for many years -- under surveillance every clear night in several meteor and aurora observing programs as well as sky mapping programs at the various locations listed below. Although the attention of these astronomers is largely directed toward identified rather than unidentified objects, no case of any striking unidentified object is known to the Panel. Such an object would most certainly be reported if found on patrol plates.

A case was cited where an astronomer refused to interrupt his exposure in order to photograph an alleged sighting in a different part of the sky, suggesting that if

a program of watching could be an adjunct of planned astronomical programs, little cost would be involved and that the trained astronomical personnel might photograph a sighting of an unidentified object.

It was agreed by the Panel that no government-sponsored program of optical nation-wide sky patrol is worthwhile at the present time, and that the encouragement of amateur astronomers to undertake such a program might have the adverse effect of over-emphasizing "flying saucer" stories in the public mind. However, the issue of radar-scope cameras for recording peculiar radar echoes would serve several purposes, including the better understanding of radar interference as well as identification of UFO's.

Radar Problem of Mutual Interference.

This characteristic problem of radar operation wherein the pulse signal (of approximately the same frequency) from station A may be picked up on the screen of station B and show as a high-speed track or series of dots was recognized to have probably caused a number of UFO reports. This problem was underlined by information received indicating ADC concern in solving this problem of signal identification before service use of very high-speed aircraft or guided missiles (1955-1956). One

Panel member believed that one answer to this problem was the use of a "doppler filter" in the receiving circuit. Another suggested that the problem might be better solved by the use of a "controlled jitter" wherein the operator receiving "very fast tracks" (on the order of 1000-12,000 mph) would operate a circuit which would alter slightly his station's pulse frequency rate. If the signal received on the screen had been caused by mutual interference with another station, the track would now show itself at a different distance from the center of the screen, if it still appeared at all. Such a technical solution was thought to be simpler and would cost much less than a "doppler filter".

Unexplained Cosmic Ray Phenomena.

Two reported cases were examined: one at Palomar Mountain, California, in October 1949, when cosmic ray counters went "off scale for a few seconds", apparently while a "V" of flying saucers was observed visually; and two, a series of observations by the "Los Alamos Bird Watchers Association" from August 1950 to January 1951, when cosmic ray coincidence counters behaved queerly. Circuit diagrams and records were available for the latter, and a Panel member was also quickly to point out that the recorded data were undoubtedly due to instrumental effects

that would have been recognized as such by more experienced observers.

The implication that radioactive effects were correlated with unidentified flying objects in these two cases was, therefore, rejected by the Panel.

Educational Program.

The Panel's concept of a broad educational program integrating efforts of all concerned agencies was that it should have two major aims: training and "debunking".

The training aim would result in proper recognition of unusually illuminated objects (e.g., balloons, aircraft reflections) as well as natural phenomena (meteors, fireballs, mirages, noctilucent clouds). Both visual and radar recognition are concerned. There would be many levels in such education from enlisted personnel to command and research personnel. Relative emphasis and degree of explanation of different programs would correspond to the categories of duty (e.g., radar operators; pilots; control tower operators; Ground Observer Corps personnel; and officers and enlisted men in other categories). This training should result in a marked reduction in reports caused by misidentification and resultant confusion.

The "debunking" aim would result in reduction in public interest in "flying saucers" which today evokes a

strong psychological reaction. This education could be accomplished by mass media such as television, motion pictures, and popular articles. Basis of such education would be actual case histories which had been puzzling at first but later explained. As in the case of conjuring tricks, there is much less stimulation if the "secret" is known. Such a program should tend to reduce the current gullibility of the public and consequently their susceptibility to clever hostile propaganda.

Members of the Panel had various suggestions related to the planning of such an educational program. It was felt strongly that psychologists familiar with mass psychology should advise on the nature and extent of the program. Also, someone familiar with mass communication techniques, perhaps an advertising expert, would be helpful. The teaching techniques used for aircraft identification during the past war were cited as an example of a similar educational task. The amateur astronomers in the U.S. might be a potential source of enthusiastic talent "to spread the gospel". It was believed that business clubs, high schools, colleges, and television stations would all be pleased to cooperate in the showing of documentary type motion pictures if prepared in an interesting manner.

The use of true cases showing first the "mystery" and then the "explanations" would be forceful.

To plan and execute such a program, the Panel believed was no mean task. The current investigatory group at ATIC would, of necessity, have to be closely integrated for support with respect to not only the historical cases but the current ones. Recent cases are probably much more susceptible to explanation than older ones; first, because of ATIC's experience and, secondly, their knowledge of most plausible explanations. The Panel believed that some expansion of the ATIC effort would certainly be required to support such a program. It was believed inappropriate to state exactly how large a Table of Organization would be required.

The Panel believed that, with ATIC's support, the educational program of "training and debunking" outlined above might be required for a minimum of one and one-half to two years. At the end of this time, the dangers related to "flying saucers" should have been greatly reduced if not eliminated. Cooperation from other military services and agencies concerned (e.g., Federal Civil Defense Administration) would be a necessity. In investigating significant cases (such as the Tremonton, Utah, sighting), controlled experiments might be required. An example would be the

photographying of "pillow balloons" at different distances under similar weather conditions at the site.

The help of one or two psychologists and writers and a subcontractor to produce training films would be necessary in addition. The Panel considered that ATIC's efforts, temporarily expanded as necessary, could be most useful in implementing any action taken as a result of its recommendations. Experience and records in ATIC would be of value in both the public educational and service training program envisaged. At least one Panel member was of the opinion that after public gullibility lessened and the service organizations, such as ADC, had been trained to sift out the more readily explained spurious sightings, there would still be a role for a very modest-sized ATIC section to cope with the residuum of items of possible scientific intelligence value. This section should concentrate on energetically following up those cases which seemed to indicate the evidence of unconventional enemy artifacts. Reports of such artifacts would be expected to arise mainly from Western outposts in far closer proximity to the Iron Curtain than Lubbock, Texas!

Unofficial Investigating Groups.

The Panel took cognizance of the existence of such groups as the "Civilian Flying Saucer Investigators"

(Los Angeles) and the "Aerial Phenomena Research Organization (Wisconsin)". It was believed that such organizations should be watched because of their potentially great influence on mass thinking if widespread sightings should occur. The apparent irresponsibility and the possible use of such groups for subversive purposes should be kept in mind.

Increase in Number of Sightings.

The consensus of the Panel was, based upon the history of the subject, that the number of sightings could be reasonably expected to increase again this summer.

SCIENTIFIC ADVISORY PANEL ON UNIDENTIFIED

FLYING OBJECTS

14-17 January 1953

Evidence Presented.

1. Seventy-five case histories of sightings 1951-1952 (selected by ATIC as those best documented).

2. ATIC Status and Progress Reports of Project GRDUGE and Project BLUE BOOK (code names for ATIC study of subject).

3. Progress Reports of Project STORK (Institute contract work supporting ATIC).

4. Summary Report of Sightings at Holleman Air Force Base, New Mexico.

5. Report of USAF Research Center, Cambridge, Mass., Investigation of "Green Fireball" Phenomena (Project TWINKLE).

6. Outline of Investigation of UFO's Proposed by Kirtland Air Force Base (Project POUNCE).

7. Motion Picture Films of sightings at Tremonton, Utah, 2 July 1952 and Great Falls, Montana, August 1950.

8. Summary Report of 89 selected cases of sightings of various categories (Formations, Blinking Lights, Hovering, etc.).

9. Draft of manual: "How to Make a FLYOBRPT", prepared at ATIC.

10. Chart Showing Plot of Geographic Location of Unexplained Sightings in the United States during 1952.

11. Chart Showing Balloon Launching Sites in the United States.

12. Charts Showing Selected Actual Balloon Flight Paths and Relation to Reported Sightings.

13. Charts Showing Frequency of Reports of Sightings 1948-1952.

14. Charts Showing Categories of Explanations of Sightings.

15. Kodachrome Transparencies of Polyethylene Film Balloons in Bright Sunlight Showing High Reflectivity.

16. Motion Picture of Seagulls in Bright Sunlight Showing High Reflectivity.

17. Intelligence Reports Relating to U.S.S.R. Interest in U.S. Sightings.

18. Samples of Official USAF Reporting Forms and Copies of Pertinent Air Force, Army, and Navy Orders Relating to Subject.

19. Sample Polyethylene "Pillow" Balloon (54 inches square.

20. "Variations in Radar Coverage", JANP 101 (Manuel illustrating unusual operating characteristics of service radar).

21. Miscellaneous Official Letters and Foreign Intelligence Reports Dealing with Subject.

22. Copies of Popular Published Works Dealing with Subject (articles and periodicals, newspaper clippings).

ASSIFICA[redacted]

CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. OO-W-25291

CD NO. [redacted]

COUNTRY	French West Africa; Algeria; Corsica; France; West Germany	DATE OF INFORMATION	1952
SUBJECT	Military - Unconventional aircraft		
HOW PUBLISHED	Daily, thrice-weekly newspapers	DATE DIST.	9 Feb 1953
WHERE PUBLISHED	Dakar; Algiers; Casablanca; Conakry	NO. OF PAGES	3
DATE PUBLISHED	3 Jul - 20 Nov 1952	SUPPLEMENT TO REPORT NO.	
LANGUAGE	French		

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE Newspapers as indicated.

REPORTS OF UNCONVENTIONAL AIRCRAFT IN FRENCH AFRICA, CORSICA, AND WESTERN EUROPE

STRANGE OBJECT SIGHTED OVER DAKAR -- Dakar, Paris-Dakar, 3 Jul 52

On the morning of 3 July 1952, precisely at 0608 hours, the technical manager of the broadcasting station at Hann Center observed an unusual object following a strange path above Dakar. The object was clearly visible for about 5 seconds against a clear and no longer starry sky.

The witness was on Route de Front de Terre, when, looking south toward Dakar and above the Centre de Reception (Reception Center), he spotted a flat but tapered object emitting rather long, reddish streaks of light with a bluish tinge.

The fiery object was moving at "a dizzy speed," which he estimated to be "two or three times greater than that of the fastest planes." It moved from west to east and disappeared with a swoop upwards, according to the witness, who believes that the object was about 1,500 meters high when he first noticed it, though he admits that it was difficult to judge its approximate altitude.

[The following editorial comment by Paris-Dakar followed the above report:]

The staff reporter of Paris-Dakar is of the opinion that the object in question was a meteor and that it disappeared in a downward, not upward, trajectory.

UNUSUAL OBJECT SEEN OVER ORAN -- Dakar, Paris-Dakar, 4 Jul 52

On 3 July 1952, at 1900 hours, a mechanic on his way home to a suburb of Oran, Algeria, noticed in the direction of the Senia airport a silvery disk which [illegible] After 3 minutes, the ob-

WHERE PUBLISHED Dakar; Algiers; Casablanca; Conakry

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ARCHIVAL RECORD
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APPROVED FOR RELEASE
DATE 6 Jan

CLASSIFICATION [redacted]

STATE	X	NAVY	X	NSRB		DISTRIBUTION						
ARMY	X	AIR	X	FBI								

[redacted]

00-W-25291

ALGERIAN WEATHER BUREAU CHIEF DISCOUNTS SAUCER REPORTS -- Dakar, Paris-Dakar, 7 Aug 52

The director of the Algerian weather bureau stated recently that the "flying saucers" seen recently over Algiers were only weather balloons which are sent up each evening between 2000 and 2030 hours from the weather stations at Maison Blanche, Blida, and Boufarik. He said that in their underbellies, the balloons carry a luminous device which, together with the motion of the balloons as they are buffeted by the wind, must have made them seem like "flying saucers" to the spectators.

LUMINOUS OBJECT SIGHTED OVER CORSICA -- Algiers, L'Echo d'Alger, 4 Oct 52

On 2 October 1952, at about 2000 hours, several people in Corsica observed a spindle-shaped, luminous object traveling noiselessly in the sky. They said that it was headed from southwest to northeast and was visible for about one minute.

DESCRIBE UNUSUAL OBJECT FLYING ALONG ALGERIAN COASTLINE -- Algiers, L'Echo d'Alger, 7 Oct 52

On 6 October 1952, at 1830 hours, a luminous object was seen flying for several seconds along the western coastline of Algeria, above Sidi Ferruch and Saint Eugene. Numerous witnesses described it as cigar-shaped and enveloped in orange flames.

MANY WITNESS "FLYING SAUCER" FORMATION IN TARN, FRANCE -- Casablanca, Maroc-Presse, 29 Oct 52

About 100 inhabitants of Gaillac (Department of Tarn, France) reported witnessing a "flying saucer" formation at about 1600 hours on 27 October 1952. The objects were said to have been 16 in number, ranged in twos, and disk-shaped, except for a swelling in the center. According to the report, they revolved giving off a bluish light at the sides.

The spectators said that they also saw a kind of elongated cylinder, a "flying cigar," traveling in the center of the saucer formation. All the objects were said to have discharged shining whitish particles, which looked like glass wool and accumulated on tree branches and telegraph wires. Many persons said that they had been able to gather clusters of such particles, but that these had quickly disintegrated, making it impossible to have them analyzed later in a laboratory.

The weather conditions were reported as ideal for observation. The mysterious objects, which had come from the southeast, reportedly remained in the area about 10 minutes and then continued on their way in a straight line.

INVENTOR IN WEST GERMANY PERFECTS "FLYING SAUCER" -- Conakry, La Guinee Francaise, 20 Nov 52

The first patent for a "flying saucer" was recently applied for in West Germany by Rudolf Schriever, a former pilot, who claimed to have perfected an "ellip-

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ARCHIVES RECORDS
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AGENCY ARCHIVES, [redacted]

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The inventor claimed that the craft, equipped with motors, has a diameter of 40 meters and can rise and descend vertically or remain motionless in the air. He estimated its maximum speed as 4,000 kilometers per hour.

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[illegible] OF [illegible] OF [illegible] AUTHORIZATION [illegible]

ON [illegible] CREDITS

COMPILED BY OFFICE OF [illegible] INTELLIGENCE, CIA

[illegible] 16, 1959

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F. C. [illegible]

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16 February 1953

MEMORANDUM FOR: Assistant Director for Scientific Intelligence

FROM : F. C. Durant

SUBJECT : Report of Meetings of the Office of Scientific Intelligence Scientific Advisory Panel on Unidentified Flying Objects, January 14 - 18, 1953

PURPOSE

The purpose of this memorandum is to present:

a. A brief history of the meetings of the O/SI Advisory Panel on Unidentified Flying Objects (Part I),

b. An unofficial supplement to the official Panel Report to AD/SI setting forth comments and suggestions of the Panel members which they believed more appropriate for inclusion in the formal report (Part II).

PART I: HISTORY OF MEETINGS

GENERAL

After consideration of the subject of "unidentified flying objects" at the 4 December meeting of the Intelligence Advisory Committee, the following action was agreed:

"The Director of Central Intelligence will:

a. Enlist the services of selected scientists to review and appraise the available evidence in the light of pertinent scientific theories...."

Following the delivery of this action to the Assistant Director for Scientific Intelligence a preliminary investigation

[redacted]

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an Advisory Panel of selected scientists was assembled. In cooperation with the Air Technical Intelligence Center, case histories of reported sightings and related material were made available for their study and consideration.

Present at the initial meeting (0930 Wednesday, 14 January) were: Dr. H. P. Robertson, Dr. [illegible], Dr. Thornton Page, Dr. [illegible] A. Goudsmit, Mr. [illegible] C. [illegible], Lt. Col. Frederick O. B. Oder (I&E Division), Mr. [illegible] P. Stevenson (W&E Division), and the writer. Panel Member, Dr. Lloyd V. Berkner, was absent until Friday afternoon. Messrs. Oder and Stevenson were present throughout the sessions to familiarize themselves with the subject, represent the substantive interest of their Divisions, and assist in administrative support of the meetings. (A list of personnel concerned with the meetings is given in Tab A).

[illegible]

The AD/SI opened the meeting, reviewing OIA interest in the subject and action taken. This review included the mention of the O/SI Study Group of August 1952 (Strong, Eng, and Durant) culminating in the briefing of the DCI, the [illegible] November 21 briefing. A [illegible] source IAC consideration, visit to ATIC (Chadwell, Robertson and Durant), and O/SI concern over potential dangers to national security indirectly related to these sightings. Mr. Strong enumerated these potential dangers. Following this introduction, Dr. Chadwell took the meeting over to

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Dr. Robertson [illegible] Chairman of the Panel. Dr. Robertson [illegible] the evidence [illegible] and requested [illegible] of specific reports and letters be taken by certain individuals present (Tab E). For example, [illegible] histories involving [illegible] and visual sightings [illegible] for Dr. [illegible] Following [illegible] remarks, the motion pictures of the [illegible] at [illegible], [illegible] (2 July [illegible]) and Great Falls, [illegible] (15 August 1950) [illegible]. The meeting adjourned at [illegible].

[illegible]

[illegible] Dr. R. S. [illegible] present [illegible] Dr. [illegible] Capt. [illegible] were present.

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THURSDAY MORNING

The third and fourth meetings of the Panel were held Thursday, 15 January, commencing at 0900 with a two-hour break for luncheon. Besides Panel members and CIA personnel, Mr. Ruppelt and Dr. Hynek were present for both sessions. In the morning, Mr. Ruppelt continued his briefing on ATIC collection and analysis procedures. The Project STORK support at Battelle Memorial Institute, Columbus, was described by Dr. Hynek. A number of case histories were discussed in detail and a motion picture film of seagulls was shown. A two hour break for lunch was taken at 1200.

THURSDAY AFTERNOON

At 1400 hours Lt. Col. Olds gave a 40-minute briefing of Project TWINKLE, the investigatory project conducted by the Air Force Meteorological Research Center at Cambridge, Mass. In this briefing he pointed out the many problems of setting up and manning 24-hour instrumentation watches of patrol centers searching for sightings of U.F.O.'s.

At 1615 Brig. Gen. William M. Garland joined the meeting with AD/SI. General Garland expressed his support of the Panel's efforts and stated three personal optimisms:

a. That greater use of Air Force intelligence officers in the field (for follow-up investigations) was desirable, but that they required thorough briefing

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b. That vigorous effort should be made to declassify as many of the reports as possible.

c. That some increase in the ATIC section devoted to U.F.O. analysis was indicated.

This meeting was adjourned at 1700.

FRIDAY MORNING

The fifth session of the Panel convened at 0900 with the same personnel present as enumerated for Thursday (with the exception of Brig. Gen. Garland).

From 0900 - 1000 there was general discussion and study of reference material. Also, Dr. Hynek read a prepared paper making certain observations and conclusions. At 1000 Mr. Fournet gave a briefing on his fifteen months experience in Washington as Project Office for U.F.O.'s and his personal conclusions. There was considerable discussion of individual case histories of sightings to which he referred. Following Mr. Fournet's presentation, a number of additional case histories were examined and discussed with Messrs. Fournet, Ruppelt, and Hynek. The meeting adjourned at 1200 for luncheon.

FRIDAY AFTERNOON

This session opened at 1400. Besides Panel members and CIA personnel, Dr. Hynek was present. Dr. Lloyd V. Berkner, an Panel Member, was present at this meeting for the first time. Progress of the meetings was reviewed by the Panel Chairman and tentative

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conclusions reached. A general discussion followed and tentative recommendations considered. It was agreed that the Chairman should draft a report of the Panel to AD/SI that evening for review by the Panel the next morning. The meeting adjourned at 1715.

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At 0945 the Chairman opened the seventh session and submitted a rough draft of the Panel Report to the members. This draft had been reviewed and approved earlier by Dr. [illegible]. The next two and one-half hours were consumed in discussion and revision of the draft. At 1100 the AD/SI joined the meeting and reported that he had shown and discussed a copy of the initial rough draft to the Director of Intelligence, USAF, whose reaction was favorable. At 1200 the meeting was adjourned.

[illegible]

At 1400 the eighth and final meeting of the Panel was opened. Discussion and rewording of certain sentences of the Report occupied the first hour. (A copy of the final report is appended as Tab [illegible]) This was followed by a review of work accomplished by the Panel and restatement of individual Panel Members' opinions and suggestions on details that were felt inappropriate for inclusion in the formal report. It was agreed that the writer would incorporate these [illegible] in an [illegible] report to the AD/SI. The [illegible] below represents this [illegible].

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PART II: COMMENTS AND SUGGESTIONS OF PANEL

GENERAL

The Panel Members were impressed (as have been others, including O/SI personnel) in the lack of sound data in the great majority of case histories; also, in the lack of speedy follow-up due primarily to the modest size and limited facilities of the ATIC section concerned. Among the case histories of significant sightings discussed in detail were the following:

Bellefontaine, Ohio (1 August 1952); Tremonton, Utah (2 July 1952); Great Falls, Montana (15 August 1950); Ipak, Montana (1 September 1952); Washington, D. C. area (19 July 1952); and Nameda A.F.B., Japan (5 August 1952), Port Huron, Michigan (29 July 1952); and Presque Isle, Maine (10 October 1952).

After review and discussion of these cases (and about 25 others, in less detail), the Panel concluded that reasonable explanations could be suggested for most sightings and "by deduction and scientific method it could be induced (given additional data) that other cases might be explained in a similar manner". The Panel pointed out that because of the brevity of some sightings (e.g. 2-3 seconds) and the inability of the witnesses to express themselves clearly (semantics) that conclusive explanations could not be expected for every case reported. Furthermore, it was considered that, normally, it would be a great waste of effort to try to solve most of the sightings, unless such action would benefit a training and educational program (see below). The writings of Charles Fort were referenced to show

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that "strange things in the sky" had been recorded for hundreds of years. It appeared obvious that there was no single explanation for a majority of the things seen. The presence of radar and astronomical specialists on the Panel proved of value at once in their confident recognition of phenomena related to their fields. It was apparent that specialists in such additional fields as psychology, meteorology, aerodynamics, ornithology and military air operations would extend the ability of the Panel to recognize many more categories of little-known phenomena.

OF LACK OF DANGER

The Panel concluded unanimously that there was no evidence of a direct threat to national security in the objects sighted. Instances of "Foo Fighters" were cited. These were unexplained phenomena sighted by aircraft pilots during World War II in both European and Far East theaters of operation wherein "balls of light" would fly near or with the aircraft and maneuver rapidly. They were believed to be electrostatic (similar to St. Elmo's fire) or electromagnetic phenomena or possibly light reflections from ice crystals in the air, but their exact cause or nature was never defined. Both Robertson and Alvarez had been concerned in the investigation of these phenomena, but David T. Griggs (Professor of Geophysics at the University of California at Los Angeles) is believed to have been the most knowledgeable person on this subject. If the term "flying saucers" had been popular in 1943 - 1945, these objects would

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have been so labeled. It was interesting that in at least two cases reviewed that the object sighted was categorized by Robertson and Alvarez as probably "Foo Fighters", to date unexplained but not dangerous; they were not happy-time to dismiss the sightings by calling them names. It was their feeling that these phenomena are not beyond the domain of present knowledge of physical science, however.

AIR FORCE REPORTING SYSTEM

It was the Panel's opinion that some of the Air Force concern over U.F.O.'s (notwithstanding Air Defense Command anxiety over fast radar tracks) was probably caused by public pressure. The result today is that the Air Force has instituted a fine channel for receiving reports of nearly anything anyone sees in the sky and fails to understand. This has been particularly encouraged in popular articles on this and other subjects, such as space travel and science fiction. The result is the mass receipt of low-grade reports which tend to overload channels of communication with material quite irrelevant to hostile objects that might some day appear. The Panel agreed generally that this mass of poor-quality reports containing little, if any, scientific data was of no value. Quite the opposite, it was possibly dangerous in having a military service foster public concern in "nocturnal meandering lights". The implication being, since the interested agency was military, that these objects were or might be potential direct threats to national security. Accordingly, the need for dereglamorization made itself apparent. Comments on a possible educational program are enumerated below.

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It was the opinion of Dr. Robertson that the "saucer" problem had been found to be different in nature from the detection and investigation of German V-1 and V-2 guided missiles prior to their operational use in World War II. In this 1943-1944 intelligence operation (CROSSBOW), there was excellent intelligence and by June 1944 there was material evidence of the existence of "hardware" obtained from crashed vehicles in Sweden. This evidence gave the investigating team a basis upon which to operate. The absence of any "hardware" resulting from unexplained U.F.O. sightings leads a "will-o-the wisp) nature to the AMIC problem. The results of their investigation, to date, strongly indicate that no evidence of hostile act or danger exists. Furthermore, the current reporting system would have little value in the case of detection of enemy attack by conventional aircraft or guided missiles; under such conditions "hardware" would be available almost at once.

/[illegible]/

It was interesting to note that none of the members of the Panel were loath to accept that this earth might be visited by extra-terrestrial intelligent beings of some sort, some day. What they did not find was any evidence that related the objects sighted to space travelers. Mr. Fournet, in his presentation, showed how he had eliminated each of the known and probable causes of sightings leaving him "extra-terrestrial" as the only one remaining in many cases. Fournet's background as an aeronautical engineer and technical intelligence

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officer (Project Officer, BLUEBOOK for 15 months) could not be slighted. However, the Panel could not accept any of the cases sighted by him because they were raw, unevaluated reports. Terrestrial explanations of the sightings were suggested in some cases and in others the time of sighting was so short as to cause suspicion of visual impressions. It was noted by Dr. Goudsmit and others that extraterrestrial artifacts, if they did exist, are no cause for alarm; rather, they are in the realm of natural phenomena subject to scientific study, just as cosmic rays were at the time of their discovery 20 to 30 years ago. This was an attitude in which Dr. Robertson did not concur, as he felt that such artifacts would be of immediate and great concern not only to the U. S. but to all countries. (Nothing like a common threat to unite peoples!) Dr. Page noted that present astronomical knowledge of the solar system makes the existence of intelligent beings (as we know the term) elsewhere than on the earth extremely unlikely and the concentration of their attention by any controllable means confined to any one continent of the earth quite improbable.

[redacted] SIGHTING

This case was considered significant because of the excellent documentary evidence in the form of Kodachrome motion picture films (about 1600 frames). The Panel studied these films, the case history, ATIC's interpretation, and received a briefing by representatives of the USN Photo Interpretation Laboratory on their analysis of the film. This team had expanded (at Air Force request, approximately

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1000 man-hours of professional and sub-professional time in the preparation of graph plots of individual frames of the film, showing apparent and relative motion of objects and variation in their light intensity. It was the opinion of the P.I.L. representatives that the objects sighted were not birds, balloons or aircraft, were "not reflections because there was no blinking while passing through 60° of arc" and were, therefore, "self-luminous". Plots of motion and variation in light intensity of the objects were displayed. While the Panel Members were impressed by the evident enthusiasm, industry and extent of effort of the P.I.L. [illegible], they could not accept the conclusions reached. Some of the reasons for this were as follows:

a. A semi-spherical object can readily produce reflection of sunlight without "blinking" through 60° of arc travel.

b. Although no data was available on the "blink" of birds or polyethylene balloons in bright sunlight, the apparent motions, sizes and brightnesses of the objects were considered strongly to suggest birds, particularly when the Panel viewed a short film showing high reflectivity of seagulls in bright sunlight.

c. P.I.L. description of the objects sighted as "[illegible], bluish-white" in color would be expected in cases of specular reflections of sunlight [illegible] the brilliance of the reflection would obscure other portions of the object.

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d. Objects in the Great Falls case were believed to have probably been aircraft, and the bright lights such reflections.

e. There was no valid reason for the attempt to relate the objects in the Tremonton sighting to those in the Great Falls sighting. This may have been due to misunderstanding in their directive. The objects in the Great Falls sighting are strongly suspected of being reflections of aircraft known to have been in the area.

f. The intensity change in the Tremonton lights was too great for acceptance of the P.I.L. hypothesis that the apparent motion and changing intensity of the lights indicated extremely high speed in small orbital paths.

g. Apparent lack of guidance of investigators by those familiar with U.F.O. reports and explanations.

h. Analysis of light intensity of objects made from duplicate rather than original film. The original film was noted to have a much lighter background (affecting relative brightness of object) and the objects appeared much less bright.

i. Method of obtaining data of light intensity appeared faulty because of unsuitability of equipment and questionable assumptions in making averages of readings.

j. No data had been obtained on the sensitivity of Kodachrome film to light of various intensities using the same camera type at the same lens openings.

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k. Hand "jitter" frequencies (obtainable from early part of Tremonton film) were not removed from the plots of the "single pass plots" at the end of the film.

The Panel believed strongly that the data available on this sighting was sufficient for positive identification if further data is obtained by photographing polyethylene "pillow" balloons released near the site under similar weather conditions, checking bird flight and reflection characteristics with competent ornithologists and calculating apparent "G" forces acting upon objects from their apparent tracks. It was concluded that the results of such tests would probably lead to creditable explanations of value in an educational or training program. However, the Panel felt that the cost in technical manpower effort required to follow up and explain every one of the thousand or more reports received through channels each year (1,500 in 1952) could not be justified. It was felt that there will always be sightings for which complete data is lacking, that can only be explained with disproportionate effort and with a long time delay, if at all. The long delay in explaining a sighting tends to eliminate any intelligence value. The educational or training program should have as a major purpose the elimination of popular belief that every sighting, no matter how poor the data, must be explained in detail. Attention should be directed to the requirement among scientists that a new phenomena, to be accepted, must be carefully and convincingly documented. In other words, the burden of proof is on the sighter, not the explainer. Why?

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POTENTIAL RELATED DANGERS

The Panel Members were in agreement with O/SI opinion that, although evidence of any direct threat from these sightings was wholly lacking, related dangers might well exist resulting from:

a. Misidentification of actual enemy artifacts by defense personnel.

b. Overloading of emergency reporting channels with "false" information ("noise to signal ratio" analogy--Durkner).

c. Subjectivity of public to mass hysteria and greater vulnerability to possible enemy psychological warfare.

Although not the concern of CIA, the first two of these problems may seriously affect the Air Defense intelligence system, and should be studied by experts, possibly under ADC. If U.F.O.'s become discredited in a reaction to the "flying saucer" scare, or if reporting channels are saturated with false and poorly documented reports, our capability of detecting hostile activity will be reduced.

Dr. Page noted that more competent screening or filtering of reported sightings at or near the source is required, and that this can best be accomplished by an educational program.

GEOGRAPHIC LOCATIONS OF UNEXPLAINED SIGHTINGS

The map prepared by ATIC showing geographic locations of officially reported unexplained sightings (1952 only) was examined by the Panel. This map showed clusters in certain strategic areas such as Los Alamos. This might be explained on the basis of 24-hour watchful guard and

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awareness of security measures near such locations. On the other hand, there had been no sightings in the vicinity of sensitive related AF establishments while there were occasionally multiple cases of unexplained sightings in non-strategic areas. Furthermore, there appeared to be no logical relationship to population centers. The Panel could find no ready explanation for these clusters. It was noted, however, that if terrestrial artifacts were to be observed it would be likely that they would be seen first near foreign areas rather than central U. S.

RESPONSIVENESS TO CURRENT DATA

The Panel was of the opinion that the present ATIC program to place 100 inexpensive 35 mm. stereo cameras in the hands of various airport control tower operators would probably produce little valuable data related to U.F.O.'s. However, it was recognized that such action would tend to allay public concern in the subject until an educational program had taken effect. It was believed that procurement of these cameras was partly the result of public pressure in July 1952. With the poor results of the year-long Project TWINKLE program of 24-hour instrumentation watch (two frames of film showing nothing distinguishable), a widespread program of sky-watching would not be expected to yield much direct data of value.

There was considerable discussion of a possible "sky patrol" by amateur astronomers (Hynek) and by wide-angle cameras (Page). Dr. Page and Dr. Robertson pointed out that at present a considerable fraction

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of the sky is now—and has been for many years—under surveillance every clear night in several meteor and aurora observing programs as well as sky mapping programs at the various locations listed below. Although the attention of these astronomers is largely directed toward identified rather than unidentified objects, no case of any striking unidentified object is known to Dr. Page or Dr. Hynek. Such an object would most certainly be reported if found on patrol plates.

A case was cited where an astronomer refused to interrupt his exposure in order to photograph an alleged sighting in a different part of the sky. This led Dr. Hynek to say that, if a program of watching could be an adjunct of planned astronomical programs, little cost would be involved and that the trained astronomical personnel might photograph a sighting of an unidentified object.

The location of some of these programs and their directors are believed to be:

a. Harvard University, Cambridge and New Mexico (meteor patrol)—Whipple.

b. Yerkes Observatory, University of Chicago and Fort Davis, Texas (several programs)—Meinel (aurorae), Kuiper (asteroids), Morgan (wide angle camera).

c. University of Alaska, Fairbanks (aurorae)—Elvey

d. Dominion Observatory, Ottawa (meteors)—Millman

e. Palomar Observatory, California (sky map)—Minkowski

f. Lick Observatory, California (sky map)—Shane

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It was agreed by the Panel that no government-sponsored program of optical nation-wide sky patrol is worthwhile at the present time, and that the encouragement of amateur astronomers to undertake such a program might have the adverse effect of over-emphasizing "flying saucer" stories in the public mind. However, the issue of radar scope cameras for recording peculiar radar echoes would serve several purposes, including the better understanding of radar interference as well as identification of U.F.O.'s.

RADAR PROBLEM OF MUTUAL INTERFERENCE

This characteristic problem of radar operation wherein the pulse signal (of approximately the same frequency) from station A may be picked up on the screen of station B and show as a high-speed track or series of dots was recognized to have probably caused a number of U.F.O. reports. This problem was underlined by information received indicating ADC concern in solving this problem of signal identification before service use of very high-speed aircraft or guided missiles (1955-1956). Dr. Parmar believed that one answer to this problem was the use of a "doppler filter" in the receiving circuit. Dr. Alvarez suggested that the problem might be better solved by the use of a "controlled jitter" wherein the operator receiving "very fast tracks" (on the order of 1000-10,000 m.p.h.) would operate a circuit which would alter slightly his station's pulse frequency rate. If the signal received on the screen had been caused by mutual interference with another station, the track would now show itself at a different distance

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from the center of the screen, if it still appeared at all. Dr. Alvarez felt such a technical solution was simpler and would cost much less than a "doppler filter".

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Two reported cases were examined: one at Palomar Mountain, California, in October 1949, when cosmic ray counters went "off scale for a few seconds", apparently while a "V" of flying saucers was observed visually; and two, a series of observations by the "Los Alamos Bird Watchers Association" from August 1950 to January 1951, when cosmic ray coincidence counters behaved queerly. Circuit diagrams and records were available for the latter, and Dr. Alvarez was able quickly to point out that the recorded data were undoubtedly due to instrumental effects that would have been recognized as such by more experienced observers.

The implication that radioactive effects were correlated with unidentified flying objects in these two cases was, therefore, rejected by the Panel.

[illegible]

The Panel's concept of a broad educational program integrating efforts of all concerned agencies was that it should have two major aims: training and "debunking".

The training aim would result in proper recognition of unusually illuminated objects (e.g., balloons, aircraft reflections) as well as natural phenomena (meteors, fireballs, mirages, noctilucent clouds). Both visual and radar recognition are concerned. There would be many

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levels in such education from enlisted personnel to command and research personnel. Relative emphasis and degree of explanation of different programs would correspond to the categories of duty (e.g., radar operators pilots; control tower operators; Ground Observer Corps personnel; and officers and enlisted men in other categories.) This training should result in a marked reduction in reports caused by misidentification and resultant confusion.

The "debunking" aim would result in reduction in public interest in "flying saucers" which today evokes a strong psychological reaction. This education could be accomplished by mass media such as television, motion pictures, and popular articles. Basis of such education would be actual case histories which had been puzzling at first but later explained. As in the case of conjuring tricks, there is much less stimulation if the "secret" is known. Such a program should tend to reduce the current gullibility of the public and consequently their susceptibility to clever hostile propaganda. The Panel noted that the general absence of Russian propaganda based on a subject with so many obvious possibilities for exploitation might indicate a possible Russian official policy.

Members of the Panel had various suggestions related to the planning of such an educational program. It was felt strongly that psychologists familiar with mass psychology should advise on the nature and extent of the program. In this connection, Dr. [illegible] Cantril (Princeton University) was [illegible]. [illegible] "[illegible]

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Mars", (a study in the psychology of panic, written about the famous Orson Welles radio broadcast in 1938) and has since performed advanced laboratory studies in the field of perception. The names of Don Marquis (University of Michigan) and Leo Rosten were mentioned as possibly suitable as consultant psychologists. Also, someone familiar with mass communication techniques, perhaps an advertising expert, would be helpful. Arthur Godfrey was mentioned as possibly a valuable channel of communication reaching a mass audience of certain levels. Dr. Berliner suggested the U. S. Navy (ONR) Special Devices Center, Sands Point, L. I., as a potentially valuable organization to assist in such an educational program. The teaching techniques used by this agency for aircraft identification during the past war was cited as an example of a similar educational task. The Jam Handy Org which made World War II training films (motion pictures and slide strips) was also suggested, as well as Walt Disney, Inc. animated cartoons. Dr. Kynck suggested that the amateur astronomers in the U. S. might be a potential source of enthusiastic talent to spread the gospel". It was believed that business clubs, high schools, colleges, and television stations would all be pleased to cooperate in the showing of documentary-type motion pictures if prepared in an interesting manner. The use of tank cases showing first the "mystery" and then the "explanation" would be forceful.

To plan and execute such a program, the Panel believed was no mean task. The current investigatory group at ATIC would, of necessity, have to be closely integrated for support with respect to not only the

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would be the photographing of "pillow balloons" at different distances under similar weather conditions at the site.

The help of one or two psychologists and writers and a subcontractor to produce training films would be necessary in addition. The Panel considered that ATIC's efforts, temporarily expanded as necessary, could be most useful in implementing any action taken as a result of its recommendations. Experience and records of ATIC would be of value in both the public educational and service training program envisaged. Dr. Robertson at least was of the opinion that after public gullibility lessened and the service organizations, such as ADC, had been trained to sift out the more readily explained spurious sightings, there would still be a role for a very modest-sized ATIC section to cope with the residue of items of possible scientific intelligence value. This section should concentrate on a vigorously following up (perhaps on the advice of qualified Air Force Scientific Advisory Board members) those cases which seemed to indicate the evidence of unconventional enemy artifacts. Reports of such artifacts would be expected to arise mainly from Western outposts in far-close proximity to the Iron Curtain than [illegible]. Tr[illegible]

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The Panel [illegible] of the [illegible] of such groups as [illegible] (Ion [illegible]) and the [illegible] [illegible] believed that such [illegible] [illegible] because of [illegible] potentially

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great influence on mass thinking if widespread sightings should occur. The apparent irresponsibility and the possible use of such groups for subversive purposes should be kept in mind.

DECREASE IN NUMBER OF SIGHTINGS

The consensus of the Panel was, based upon the history of the subject, that the number of sightings could be reasonably expected to increase again this summer.

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TAB A

REPORT OF THE SCIENTIFIC PANEL
ON
UNIDENTIFIED FLYING OBJECTS JAN 17 1953

1. Pursuant to the request of the Assistant Director for Scienti Intelligence, the undersigned Panel of Scientific Consultants has met t evaluate any possible threat to national security posed by Unidentified Flying Objects ("Flying Saucers"), and to make recommendations thereon The Panel has received the evidence as presented by cognizant intelligence agencies, primarily the Air Technical Intelligence Center, and he reviewed a selection of the best documented incidents.

2. As a result of its considerations, the Panel concludes

a. That the evidence presented on Unidentified Flying Objects shows no indication that these phenomena constitute a direct physical threat to national security.

We firmly believe that there is no residuum of cases which indicate phenomena which are attributable to foreign artifacts capable of [illegible] acts, and that there is no evidence that the phenomena [illegible] for the revision of our [illegible]

3. The Panel further concludes

a. That the continued emphasis on the [illegible] of these phenomena does, in the [illegible] times, result in a threat to the orderly functioning of the protective organs of the body politic.

We cite as examples the clogging of the [illegible] of communication by [illegible] reports, the danger of being led by continued false alarms to ignore re

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indications of hostile action, and the cultivation of a morbid national psychology in which skillful hostile propaganda could induce hysterical behavior and harmful distrust of duly constituted authority.

4. In order most effectively to strengthen the national facilities for the timely recognition and the appropriate handling of true indications of hostile action, and to minimize the concomitant dangers alluded to above, the Panel recommends:

a. That the national security agencies take immediate steps to strip the Unidentified Flying Objects of the special status they have been given and the aura of [illegible] acquired;

b. That the national security [illegible] policies on intelligence, training, and public [illegible] designed to prepare the material defenses and the morale [illegible] to recognize most promptly and to react most effectively to true indications of hostile intent or action.

We suggest that these aims may be achieved by an integrated program designed to reassure the public of the [illegible] of evidence of [illegible] for [illegible] the phenomena, to train [illegible] false indications quickly and effectively and to strengthen [illegible] channels for [illegible] of and prompt [illegible] of hostile [illegible]

/s/ [illegible]
Chairman [illegible]

/s/ [illegible]
University of [illegible]

[illegible]

[redacted]

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[redacted]

SCIENTIFIC ADVISORY PANEL ON

UNIDENTIFIED FLYING OBJECTS

14 - 17 January 1953

EVIDENCE PRESENTED

1. Seventy-five case histories of sightings 1951 - 1952 (selected by ATIC as those best documented).

2. ATIC Status and Progress Reports of Project GRUDGE and Project BLUE BOOK (code names for ATIC study of subject).

3. Progress Reports of Project STORK (code name for Battelle Memorial Institute contract work supporting ATIC).

4. Summary Report of Sightings at Holloman Air Force Base, New Mexico.

5. Report of USAF Research Center, Cambridge, Mass., Investigation of "Green Fireball" Phenomena (Project TWINKLE).

6. Outline of Investigation of U.F.O.'s Proposed by Kirtland Air Force Base (Project POUNCE).

7. Motion Picture Films of sightings at Tremonton, Utah, 2 July 1952 and Great Falls, Montana, August 1950.

8. Summary Report of 89 selected cases of sightings of various categories (Formations, Blinking Lights, Hovering, etc.

9. Draft of manual "How to Make a FLYOSRPT", prepared at ATIC

10. Chart Showing Plot of Geographic Location of Unexplained Sightings in the United States during 1952.

11. Chart Showing Balloon Launching Sites in the United States

12. Charts Showing Selected Actual Balloon Flight Paths and Relate to Reported Sightings

13. Charts Showing Frequency of Reports of Sightings, 1947 - 1952

14. Charts Showing Categories of Explanations of Sightings

15. Kodachrome Time Exposures of Polyethylene Film Balloons [illegible] Sunlight Showing High Reflectivity

[redacted]

Copied From Nearly Illegible Original

[redacted]

16. Motion pic[illegible] of [illegible]

17. Intelligence Reports Relating to U.S.S.R. Inter[illegible]

18. Samples of Official USAF Reporting Forms and Co[illegible] Air Force, Army and Navy Orders Relating to Subject.

19. Sample Polyethylene "Pillow" Balloon (54 inches [illegible]

20. "Variations in Radar Coverage", JANP [illegible] (Manual [illegible] operating characteristics of Service radar).

21. Miscellaneous official letters and foreign [illegible] dealing with subject.

22. Copies of popular published works dealing with subject [illegible] in periodicals, newspaper clippings and books.

[redacted]

Copied From Nearly Illegible Original

[redacted]

TAB C

SCIENTIFIC ADVISORY PANEL ON

UNIDENTIFIED FLYING OBJECTS

14 - 17 January 1953

MEMBERS	ORGANIZATION	FIELD OF COMPETENCY
Dr. H. P. Robertson (Chairman)	California Institute of Technology	Physics, weapons systems
Dr. Luis W. Alvarez	University of California	Physics, radar
Dr. Lloyd V. Berkner	Associated Universities, Inc.	Geophysics
Dr. Samuel Goudsmit	Brookhaven National Laboratories	Atomic structure, statistical problems
Dr. Thornton Page	Office of Research Operations, Johns Hopkins University	Astronomy, Astrophysics

ASSOCIATE MEMBERS

Dr. J. Allen Hynek	Ohio State University	Astronomy
Mr. Frederick C. Durant	Arthur D. Little, Inc.	Rockets, guided missiles

INTERVIEWERS

Brig. Gen. William M. Garland	Commanding General, ATIC	Scientific and technical intelligence
Dr. H. Marshall Chadwell	Assistant Director, O/SI, CIA	Scientific and technical intelligence
Mr. Ralph L. Clark	Deputy Assistant Director, O/SI, CIA	Scientific and technical intelligence

[redacted]

Copied From Nearly Illegible Original

[redacted]

INTERVIEWEES (cont'd)	ORGANIZATION	[illegible]
Mr. Philip G. Strong	Chief, Operations Staff, O/SI, CIA	Scientific and technical intelligence
Mr. Stephen T. Possony	Acting Chief, Special Study Group, D/I USAF	Scientific and technical intelligence
Capt. Edward J. Ruppelt, USAF	Chief, Aerial Phenomena Branch, ATIC, USAF	[illegible]
Mr. J. Dewey Fournet, Jr.	The Ethyl Corporation	
Lt. R. S. Neardum, USN	USN Photo Interpretation Laboratory, Anacostia	[illegible]
Mr. Harry Wa[illegible]	USN Photo Interpretation Laboratory, Anacostia	[illegible]

[redacted]

Copied From Nearly Illegible Original

(12)

Honorable Gordon H. Scherer
House of Representatives
Washington 25, D.C.

Dear Mr. Scherer:

In your letter of 24 August you forwarded a copy of a letter from Mrs. Catherine Carter Golden of Cincinnati in which she discussed the subject of unidentified flying objects. Mrs. Golden seemed particularly interested in the pictures taken in Brazil and shown on the Dave Garroway show.

The photograph referred to by Mrs. Golden was taken by a free-lance photographer. Contrary to her information, this photograph was not developed in the presence of persons other than the photographer.

Mrs. Golden has corresponded with the Department of State and the Air Force for some time on the general subject of unidentified flying objects. The Department of the Air Force has primary responsibility for investigating information pertaining to UFO's. Mrs. Golden recently contacted the State Department on the subject of the alleged Brazilian sighting and her query was referred to the Department of the Air Force whose reply is attached. This Agency has no information other than that which has already been provided the Air Force on this subject.

Sincerely,

SIGNED

John S. Warner
Legislative Counsel

Enclosure

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John S. Warner
Legislative Counsel

Enclosure

Distribution:
Orig & 1 - Addressee
1 - OSI
1 - Leg. Counsel - subject
1 - Leg. Counsel - chrono

12

(49)

[redacted]

Operations Staff, O/SI 16 December 1953

Chief, Operations Staff, O/SI

B-3

FLYING SAUCERS

In view of the fact that over-all substantive responsibility on the above subject has been assigned to the Physics and Electronics Division and action responsibility within that division assigned to Lt. Colonel Oder, Operations Staff must coordinate any matter concerning FLYING SAUCERS with Colonel Oder, or in his absence, with Doctor Oderenko. (b)(3)

P. G. Strong

P. G. STRONG

OSI:PGStrong:bfb

Distribution:
Orig. - Circulation to Staff
1 - Doctor Oderenko, Chief, P.E. (b)(3)
1 - Subject
1 - Chrono
1 - Daily Reading

57

Chief, Operations Staff, 0/81

B-3

FLYING SAUCERS

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(b)(3)

P. G. Strong

P. G. STRONG

031:PGStrong:bfb

Distribution:
Orig. - Circulation to Staff
1 - Doctor Odarenko, Chief, P.E. (b)(3)
1 - Subject
1 - Chrono
1 - Daily Reading

57

[redacted]

49

(144)

[redacted]

SA-AD/SI
AD/SI

24 April 1953

B-3

MEMORANDUM FOR RECORD

SUBJECT: Further to FCDA Meeting

1. Ted Babbitt telephoned this morning that any time on 30 April will be satisfactory for the FCDA meeting. We should call him back suggesting an exact time for them to come here.

2. Governor Peterson will not attend, as he has to be at the White House. His designations are:

John deChant -- Director, Office of Public Affairs

Ralph E. Spear - Assistant Administrator for Plans and Policy

Ted Babbitt

and possibly one other, whose name Babbitt will phone to D'Arcy Brent.

Philip G. Strong
PHILIP G. STRONG
Acting Deputy Assistant Director
Scientific Intelligence

Distribution;
Opns/SI - 1
AD/SI - 2
Exec/SI - 1

OSI PGS/mcw (24 April 1953)

Clark
Durant
?? Robertson

24 April 1953

B-3

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Acting Deputy Assistant Director
Scientific Intelligence

Distribution:
Opns/SI - 1
AD/SI - 2
Exec/SI - 1

OSI PGS/mcw (24 April 1953)

Clark
Durant
?? Robertson

[redacted]

53

44

(47)

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : Chief, Physics and Electronics Division/OSI DATE: MAY 27 1953

FROM : Assistant Director, Scientific Intelligence

SUBJECT: Unidentified Flying Objects

1. Responsibility for maintaining current knowledge of reports of sightings of unidentified flying objects is hereby assigned to your division. By carbon copy of this memorandum, Chief of the Applied Science Division is requested to provide support from a weapons and hardware standpoint.

2. Major files on U. F. O.'s are located in Air Branch, Applied Science Division. A file of key documents and administrative papers are on file in the Operations Staff office. Mr. Jackson Heckert of IPS is presently the custodian of certain files on this subject which were transferred to IPS from O/CI. It is suggested that Physics and Electronics Division take over custody of such of these files as are necessary for it to fulfill the above responsibility. The Division should also arrange through Mr. Heckert so that material on this subject being forwarded from O/CI will be routed directly to Physics and Electronics Division.

B-3

B-3

H. MARSHALL CHADWELL

B-3

OSI/PGStrong:kvl (20 May 1953)

Distribution:
Orig and 1 - Addressee
1 - Reqts/SI
1 - IPS/SI
1 - ASD/SI
2 - AD/SI
1 - Subject file
1 - Daily reading file
1 - Chrono

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B-3

B-3

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Distribution:
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1 - Reqts/SI
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1 - ASD/SI
2 - AD/SI
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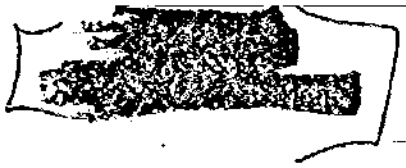

47

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MEMORANDUM FOR THE RECORD

SUBJECT : Office Responsibilities for Non-Conventional Types of Air Vehicles

REFERENCE: Memorandum for the Record, 14 June 1954, this subject

1. Reference memorandum is hereby rescinded.

2. Henceforth, ASD will conduct all surveillance of available information on this subject. All other OSI Divisions will provide such technical consultative assistance to ASD as it requires to discharge its assigned responsibility in this field. ASD will request a project of the requisite scope when appropriate for inclusion in the OSI Production Program.

3. ASD will maintain the OSI files on this subject. All other Divisions will forward their files to ASD and thereupon terminate their filing activities on this subject.

HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

DISTRIBUTION:
Orig - AD/SI
~~[illegible]~~
1 - Elec/SI
1 - FSA/SI
1 - DAD/P/SI
1 - CS/SI
1 - GM/SI
1 - ~~[illegible]~~
1 - ASD CHRONO

± 572 pgs

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Assistant Director
Scientific Intelligence

DISTRIBUTION:
Orig - AD/SI
~~[illegible]~~
1 - Elec/SI
1 - FSA/SI
1 - DAD/P/SI
1 - CS/SI
1 - CM/SI
1 - ~~[illegible]~~
1 - ASD CHRONO

± 572 p.3

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT.

TO : Assistant Director, SI

DATE: 3 July 1953

FROM : Chief, Physics & Electronics Division, SI

SUBJECT: Unidentified Flying Objects

1. Reference is made to your memorandum of 27 May 1953, subject as above, which assigned to this Division the responsibility "for maintaining current knowledge of reports of sightings of unidentified flying objects."

2. Since the referenced memorandum did not stipulate the priority of this project versus the normal responsibilities of this Division, nor indicated the depth or scope of required knowledge, the Division has reviewed the status of the project, its present method of handling and its possible timeliness or relationship to the current productive intelligence activities of the Division. The review involved informal discussions with ASD personnel, with Mr. Heckert, OCI, with USAF personnel and with members of the Scientific Review Board called by CIA last year.

3. The review indicated that a close follow-up of the project including a careful analysis of all incoming information and the corresponding liaison with the sources would require continuous efforts of two analysts, a file clerk and a considerable typing load.

4. In view of the findings of the Board that a close inspection of the available material does not postulate a serious, direct threat to national security, and that no information has been obtained since the Board's conclusion to necessitate their modifications, it was concluded that:

a. the project will be considered as inactive

b. the incoming material will be reviewed periodically to segregate references to recognizable and explainable phenomena from those which come under the definition of "unidentified flying objects"

c. all material on unidentified objects will be deposited in the files for future reference unless it raises an immediately, recognizable problem of concern to national security.

5. With the above premise it is planned to handle the project with a part-time use of an analyst and a file clerk. To provide filing facilities, one additional filing cabinet will be requested.

OK to [illegible]

TODOS M. ODARENKO

FROM : Chief, Physics & Electronics Division, SI

SUBJECT: Unidentified Flying Objects

1. Reference is made to your memorandum of 27 May 1953, subject as above, which assigned to this Division the responsibility "for maintaining current knowledge of reports of sightings of unidentified flying objects."

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OK
TODOS N. ODARENKO

[redacted]

4B

STANDARD FORM NO. 64

[redacted]

Office Memorandum • UNITED STATES GOVERNMENT

TO : Assistant Director, Scientific Intelligence DATE: 8 December 1953

FROM : Chief, Operations Staff, O/SI

SUBJECT: Report on Book Entitled "Flying Saucers from Outer Space"

1. As requested, the subject book was reviewed by one of our consultants with particular reference to possible security violations concerning CIA's part in the flying saucer investigation. Pertinent comments of this consultant are as follows:

a. "The book itself is highly readable, but the content is highly distorted and filled with so many half-truths and inferences that I feel certain that the author is knowingly committing a perpetration. Prominent in the book is one Albert M. Chop, an Air Force (Reserve) Public Information Officer who was on duty at the Pentagon until recently returning to inactive duty. The author, Keyhoe, makes extensive use of Chop's statements and implies that the Air Force is deliberately concealing positive conclusions from the public.

b. "CIA is mentioned several times on page 242 of the book -- nowhere else. Keyhoe states here that a friend of his, with high level 'contacts', told him about February 17, 1953, that:

(1) CIA 'people' advised the Air Force to put out a report debunking the saucers, tell the public the project was ended and then carry it on underground, Top Secret.

(2) Some of the 'intelligence boys' were mad as the devil at CIA for even suggesting the above action.

c. "CIA is supposed to have made these recommendations following a 'secret high level briefing'. There is no apparent knowledge of the CIA panel meetings although the Panel's recommendations might have been interpreted by a fanatical saucer 'believer' as 'debunking'. However, there was certainly no recommendation that suggested hiding any information from the public.

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[redacted]

d. "Therefore, Keyhoe, having built up a 'case' for saucers being interplanetary, insists that the Air Force (and CIA) know the 'truth' and are refusing to give the public the facts.

e. "I saw Dr. Stefan T. Possony (Chief, USAFOIN Special Study Group) recently. He was not aware of any particular concern in the Pentagon over Keyhoe's assertions. However, it might be wise to check directly with the officer who replaced Major Dewey Fournet in Current Intelligence. I believe his name is Smith. Part of his duties are to follow all reports of sightings of U.F.O.'s.

f. "As to the possibility of a security breach, it is difficult to say. I suspect that Chop heard of CIA's being briefed but that no leak occurred regarding the O/SI Panel."

2. It is believed that no security breach is involved and any investigation of this book would only serve to focus additional attention on an obvious bit of sensational science "fiction". It is recommended, therefore, that no further action regarding the book be initiated by this office.

P. G. STRONG

B-3

OSI:CFMarsh:kvl

Distribution:
Orig & 1 - Forward
1 - Exec
1 - P&E
1 - ASD
1 - Subject
1 - Chrono
1 - Daily Reading

[redacted]

[redacted]

17 December 1953

MEMORANDUM TO: Assistant Director, Scientific Intelligence

FROM : Chief, Physics and Electronics Division, SI

SUBJECT : Current Status of Unidentified Flying Objects (UFOB) Project.

1. In accordance with the verbal request of Mr. Brent, Exec/SI, on 30 November, the following resume of the current status of unidentified flying objects activities has been prepared.

2. P&E Division assumed responsibility for the OSI project on unidentified flying objects as a result of your memorandum of 27 May 1953. The project has been confined to maintaining awareness of the activities of other agencies (notably the USAF) in the unidentified flying objects business and to maintenance of files.

3. Status of Department of Defense Activities.

a. Air Force. The Air Force continues to maintain, but with apparently decreasing emphasis, its interest in UFOB's. The present interest of the Directorate of Intelligence, Hq., USAF, is confined to a cursory cognizance of ATIC's project (Bluebook No. 10073). At ATIC the project is carried by one officer (Capt. Charles A. Hardin), one airman (A/1C Max G. Futch), and a secretary operating as the Aerial Phenomena Section of the Electronics Branch, Technical Analysis Division. In spite of this limited staff, as well as several changes of project officer, the project records appear to be up-to-date. ATIC personnel no longer conduct field investigations of UFOB sightings (these are requested from USAF intelligence officers [primarily Air Defense Command and Airways and Air Communications Service] nearer to the sightings), but confine their activities to receiving and checking reports as received, requesting additional field investigation where necessary, performing necessary checking against meteorological, astronomical, aircraft and balloon data, and recording their findings and conclusions in a cross-referenced system by date, location, source, type of observation and conclusion drawn. The Aerial Phenomena Section also deals directly with the Public Information Office of Hq., USAF, regarding information for public release. For about the past year, approximately ten percent of the reported sightings have been tagged as unsolved.

Of particular interest is the fact that ATIC is in the process of transferring project Bluebook to Hq., Air Defense Command. According to Lt. Col. Harry Johnston, Chief, Electronics Branch, the reason for the transfer was that ADC had been doing most of the

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[redacted]

201

investigative work of the project and "if it turns out that these things (UFOB's) are space ships or long range aircraft from another country, ADC is the (Air Force) Command that would have to take action." Col. Johnston followed this concept with the somewhat contradictory statement that the project transfer did not reflect any change in Air Force policy. It is undoubtedly true that ADC is the Air Force Command primarily concerned with UFOB's at the present time in that their interceptors are occasionally dispatched "against" reported UFOB's and that their reporting stations and communications systems are involved in a considerable portion of the UFOB activity. ATIC will maintain liaison with the project.

Approximately a year and one half ago ATIC initiated a program to purchase cameras for selected ADC radar sites and AACS control towers in locations where consistent UFOB reports were received in the hopes of photographing UFOB's. One lens of the camera (a stereoscopic type) was to be covered with a simple grating to record the spectrographic nature of the UFOB photographed. One hundred "Videon" 35 mm. cameras with "sturgeon" anastigmat f 3.5 lenses were purchased along with 100 gratings (15,000 line) from CEMCO, Chicago. Seventy-four (74) cameras were distributed. Ninety percent of the gratings have "gone bad"--the actual grating separating from the plastic mounting plates. New gratings are expected shortly and ATIC expects to recall all of the 74 distributed cameras and re-equip them with the new gratings.

Several months ago we were advised that ATIC planned to set up a concentrated instrumentation observational effort in the Albuquerque area. This has now been dropped.

Project STORK (SECRET) has been preparing, at ATIC request, a comprehensive statistical report on UFOB sightings during the period 1947 through 1952. This study is now expected to be completed by 1 December 1953.

ATIC issues status reports on Project Bluebook on a tri-monthly basis the most recent being Report No. 12 30 September 1953.

b. Navy. The Navy in spite of press reports to the contrary, is presently devoting only part of one ONI analyst's time to maintaining cognizance of UFOB's.

c. Army. The Army has evidenced little or no interest in UFOB's other than cooperating with the Air Force in reporting sightings and pertinent data using the Air Force format.

4. Investigations or Interests of Foreign Governments.

[redacted]

d. Other. Aside from a few scattered reports, mostly old, which indicate interest in UFOB's by private individuals or groups, there is no information of concern or inquiries of consequence in other foreign countries.

5. Results of CSI Panel Recommendations. The consultants who considered this problem in January 1953 recommended that UFOB's be stripped of special status and aura of mystery and that policies on intelligence, training, and public education pertinent to true indications of hostile intent or action be prepared. The definite drop in the number of "sightings" reported during 1953 over 1952 could be attributed to actions following these recommendations. Two recent books ("Flying Saucers From Outer Space" by Keyhoe and "Flying Saucers Have Landed" by Leslie and Adamski) take full advantage of "official" UFOB reports released by the Air Force to develop a central theme that UFOB's are extraterrestrial in origin. Fortunately, the latter book is so nonsensical and obviously fraudulent that it may actually help calm down public reaction. These books do, however, illustrate the risk taken by the present policy. There are no other as yet apparent results of these recommendations.

[redacted]

TODD M. ODARENKO

(202)

[redacted]

FO

14 June 1954

MEMORANDUM FOR THE RECORD:

SUBJECT: Intelligence Responsibilities for Non-Conventional Types of Air Vehicles.

REFERENCE: Memorandum from AD/SI to Ops/SI, ASD/SI and P&E/SI of May 20, 1954.

1. As requested by the referenced memorandum, the allocation of intelligence responsibilities in regard to the non-conventional air vehicles, similar to those currently under development by the Canadian, British and USAF organizations, has been considered by ASD/SI, Ops/SI and P&E/SI.

2. It is agreed that:

a. ASD/SI will be responsible for the initiation and proper exploitation of all intelligence measures required to identify, to assess and to report the use by any foreign power or nation of non-conventional types of air vehicles, such as or similar to the "saucer-like" planes presently under development by the Anglo/British Canadian efforts. In this, ASD/SI will rely upon normal assistance of all other elements of OSI, substantive and staff, of the same kind that it receives in regard to other weapons and weapon systems presently within its normal intelligence activities.

b. P&E/SI will continue to be responsible for the OSI project on "unidentified" flying objects, will maintain the OSI central file on such objects and will make available to ASD/SI the material of this file which might bear directly or indirectly upon man-made non-conventional air vehicles capable of "weapon" applications. It will retain its normal responsibilities in regard to electronic aspects of these vehicles (such as navigational and guidance methods, techniques and equipments, etc.) and will assist ASD/SI in all matters falling within its intelligence responsibilities as these might be required to fully assess the capabilities and limitations of the non-conventional air vehicles considered as weapons or weapon systems.

14 June 1954

MEMORANDUM FOR THE RECORD:

SUBJECT: Intelligence Responsibilities for Non-Conventional Types of Air Vehicles

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[redacted]

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[redacted]

3. It is believed that no special action is required of AD/SI at this time in regard to the definition or allocation of intelligence responsibilities in regard to the subject matter.

ASD/SI /s/ Sidney N. Graybeal

Ops/SI /s/ T. M. Nordbeck

P&E/SI /s/ T. M. Olarenko

15 June 1954

cc: AD/SI
ASD/SI
Ops/SI
P&E/SI

[redacted]

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT : Comments on OO-B-90229, Sighting of Unconventional Aircraft

1. The distance and lighting conditions under which the source sighted the unusual object would make it extremely difficult to determine just what was being seen. In some degree, the description fits a vertical take-off aircraft or a missile or aircraft launched from a zero length rail. The zero length launching could most certainly be accomplished only with a rocket which would produce a large flame and smoke which would have been very noticeable. The spiraling of the object as it left the launcher does not fit very well with a vertical take-off aircraft.

2. The very small amount of details given in the referenced report does not permit an identification of the object sighted. It does, however, tend to indicate that it was not a "flying saucer". In 1954, the Scientific Advisory Board to the Chief of Staff, USAF, appointed an ad hoc committee of three scientists to evaluate project "Y". The committee found that several factors had been overlooked or minimized in their development, such as payload, drag factors, and mechanical design problems, to such an extent that the committee recommended against support for the project. Air Force support of the project now is in basic research concerned with vertical thrust which modifies considerably the flying saucer concept.

Herbert Scoville, Jr.
HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

Enclosure: OO-B-90229 Report

36541

MEMORANDUM FOR: Director of Central Intelligence

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Enclosure: OO-B-90229 Report

36541

CENTRAL INTELLIGENCE AGENCY

INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. CO-W-27521

CD NO. --

COUNTRY	Denmark, Norway, Finland, USSR	DATE OF INFORMATION	1953
SUBJECT	Military - Air, unconventional aircraft	DATE DIST.	20 Aug 1953
HOW PUBLISHED	Daily newspaper		
WHERE PUBLISHED	Stockholm	NO. OF PAGES	2
DATE PUBLISHED	13 Jul 1953	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Swedish		

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE Morgon-Tidningen.

DANISH DEFENSE LEADERS TAKE SERIOUS VIEW OF FLYING SAUCERS

[Comment: The information below is the full text of an article which appeared in the Stockholm daily, Morgon-Tidningen, on 13 July 1953. The leading Copenhagen dailies, Berlingske Tidende, Social-Demokraten, Politiken, and Information, during the period around the above date, did not carry the story.]

Copenhagen, 12 July -- Danish defense authorities take a serious view of the problem of flying saucers. The military experts are of the opinion that although most of the observations [of flying saucers] have turned out to be astronomical phenomena, there remain the reports of trained observers which, among other things, would seem to indicate that the saucers are dispatched from Soviet bases in the Arctic Ocean.

The Danish Air Force Command has recently turned over to the Defense Staff a report on various phenomena in the air over Denmark and the waters adjacent to Denmark. The report is based on observations from Danish Air Force radar stations. These observations are compared with information regarding the remote-controlled projectiles which have been traced in the atmosphere over the northernmost part of Norway and Finland. On the basis of these observations, the members of the Defense Intelligence Service have come to the conclusion that the projectiles could have been dispatched from a Soviet base on Novaya Zemlya in the Artic Ocean.

The report discusses the incident in which an officer and seven privates from Karup Airfield on Jutland, on 12 November 1952, sighted an object in the air which resembled an aircraft, but which moved more rapidly than any known type of aircraft. The [Danish] observations are compared with a number of Norwegian observations, among them one which occurred in October 1952 when, according to the Norwegian Defense Staff and the Norwegian Navy, an aircraft of hitherto unknown design flew over the naval base at Horten at the entrance

WHERE PUBLISHED Stockholm

NO. OF PAGES 2

DATE PUBLISHED 13 Jul 1953

SUPPLEMENT TO REPORT NO.

LANGUAGE Swedish

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THIS IS UNEVALUATED INFORMATION

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STATE	X	NAVY	X	NSRB		DISTRIBUTION					
ARMY	X	AIR	X	FBI							

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recently in northern Norway, when the crew of an anti-aircraft battery outside of Bodö observed a mysterious object at a great height. A jet plane was sent up, but it was not able to reach the object, which disappeared at a terrific speed.

The report of the Danish Air Force Command emphasizes that the "flying saucer traffic" over Scandinavia seems to be a fact of great aerotechnical interest.

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ARMY ARCHIVES

CLASSIFICATION [redacted]

CENTRAL INTELLIGENCE AGENCY

INFORMATION FROM

FOREIGN DOCUMENTS OR RADIO BROADCASTS

[redacted]

REPORT NO. 00-W-27452

CD NO. --

COUNTRY	Germany, USSR, French Equatorial Africa, Syria, Iran	DATE OF INFORMATION	1952 - 1953
SUBJECT	Military - Unconventional aircraft		
HOW PUBLISHED	Daily, thrice-weekly newspapers	DATE DIST.	18 Aug 1953
WHERE PUBLISHED	Athens, Brazzaville, Tehran		
DATE PUBLISHED	11 Mar - 20 May 1953		
LANGUAGE	Greek, French, Persian		

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BY AUTHORITY OF
Name [redacted]
Office [redacted]
Date 16 Mar 1955

NO. OF PAGES 3

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[redacted]

SOURCE Newspapers as indicated.

ENGINEER CLAIMS "SAUCER" PLANS ARE IN SOVIET HANDS; SIGHTINGS IN AFRICA, IRAN, SYRIA

GERMAN ENGINEER STATES SOVIETS HAVE GERMAN FLYING SAUCER EXPERTS AND PLANS -- Athens, I Vradyni, 13 May 53

Vienna (Special Service) -- According to recent reports from Toronto, a number of Canadian Air Force engineers are engaged in the construction of a "flying saucer" to be used as a future weapon of war. The work of these engineers is being carried out in great secrecy at the A. B. Roe Company [transliteration from the Greek] factories.

"Flying saucers" have been known to be an actuality since the possibility of their construction was proven in plans drawn up by German engineers toward the end of World War II.

Georg Klein, a German engineer, stated recently that though many people believe the "flying saucers" to be a postwar development, they were actually in the planning stage in German aircraft factories as early as 1941.

Klein said that he was an engineer in the Ministry of Speer [probably refers to Albert Speer, who, in 1942, was Minister for Armament and Ammunition for the Third Reich] and was present in Prague on 14 February 1945, at the first experimental flight of a "flying saucer."

During the experiment, Klein reported, the "flying saucer" reached an altitude of 12,400 meters within 3 minutes and a speed of 2,200 kilometers per hour. Klein emphasized that in accordance with German plans, the speed of these "saucers" would reach 4,000 kilometers per hour. One difficulty, ac-

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STATE	X	NAVY	X	NSRB		DISTRIBUTION				
ARMY	X	AIR	X	FBI						

Klein went on to state that three experimental models had been readied for tests by the end of 1944 [sic], built according to two completely different principles of aerodynamics. One type actually had the shape of a disc, with an interior cabin, and was built at the Mite [unidentified; transliteration from the Greek] factories, which had also built the V2 rockets. This model was 42 meters in diameter. The other model had the shape of a ring, with raised sides and a spherically shaped pilot's cabin placed on the outside, in the center of the ring. This model was built at the Habermol and Schreiver factories [unidentified; both names transliterated from the Greek].

Both models had the ability to take off vertically and to land in an extremely restricted area, like helicopters.

During the last few days of the war, when every hope for German victory had been abandoned, the engineers in the group stationed in Prague carried out orders to destroy completely all their plans on their model before the Soviet forces arrived. The engineers at the Mite factories in Breslau, however, were not warned in sufficient time of the Soviet approach, and the Soviets, therefore, succeeded in seizing their material. Plans, as well as specialized personnel, were immediately sent directly to the Soviet Union under heavy guard, coincidental with the departure from Berlin of the creator of the Stuka, [JU-87 dive bomber], who later developed the MIG 13 and 15 in the Soviet Union.

According to the report, nothing is known of the whereabouts of Hambermol since his disappearance from Prague; Schreiver died recently in Bremen; and Mite, who escaped in a Messerschmitt 163, is in the US.

Klein was of the opinion that the "saucers" are at present being constructed in accordance with German technical principles and expressed the belief that they will constitute serious competition to jet-propelled airplanes.

Klein further stated that it was very possible to construct "flying saucers" for civilian air travel; that they could carry 30-40 passengers at a speed of 4,000 kilometers per hour. He added, however, that the tremendous amount of materiel necessary for their construction did not warrant their being built exclusively for civilian air travel. His opinion was shared, he stated, by Giuseppe Belluzzo, the Italian specialist with whom Klein has been corresponding for some time.

DELAYED REPORT ON FOUR "SAUCERS" SEEN IN UBANGI-SHARI -- Brazzaville, France-Equateur, 11 Mar 53

The Meteorological Service of French Equatorial Africa has authorized this newspaper to publish today the following account about four "flying saucers" seen on 22 November 1952 over Bocaranga, Ubangi-Shari.

At approximately 2200 hours, Father Carlos Maria, (a Capuchin missionary), Lasimone, his companion, and four other persons were driving on the road to Bocaranga, when they suddenly noticed a large disc traveling overhead in the same direction as they. Lasimone extinguished the car's lights, but the disc disappeared in the distance. A short while later, in the same spot, they saw four discs motionless in the air. Father Maria's description follows:

"We could see them clearly. Two were above and two below, but all four had no point of contact. At that moment, they had a silvery color like that of the moon. I would say that their diameter was somewhere between 30 and 40 centimeters

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"They moved several times, but each time it seemed that only the two lower ones were rotating. Just before they /all four/ began to move, they lit up brightly, like suns. Then it looked as though they arranged themselves to move in circular fashion so as to return to their starting point. On stopping, they lost their brilliant color and regained the silvery one. During their rotation, they seemed slightly oval. I cannot say whether it was due to a new shape they assumed while in flight or to the oblique position they had assumed while moving. Each time they turned, they had that shape and that profusion of light. We observed them for about 20 minutes. After their final turn, they remained motionless in their initial position for several moments. Then they disappeared, headed in the direction from which we had come. What I saw was no aerolite, shooting star, or anything of the kind. It could only have been a man-made machine."

Lasimone then gave an equally detailed version, as follows:

"At about 2200 hours, we observed four halos of silvery light grouped in a square formation and located above light clouds. The night was very clear.

"At one point, the four halos were on the horizon, ranged in a line in the direction of Bouzoum. Suddenly, one of them lit up in vivid red, causing its shape to be distinguished. It was like a cigar, thicker in the fore section. The center section constituted about one third of the total length, and appeared opaque in the light, with perfectly symmetrical lines. Flying above the clouds, this object headed in our direction at considerable speed, about equal to that of an average plane. About 5 or 6 kilometers away, it halted without changing its lights and then climbed again, vertically. The stop was abrupt and the glow became silvery again. The other three on the horizon then began to move in the same way as the first and joined it to form a square once again."

REPORT "FLYING SAUCERS" SEEN IN SYRIA -- Athens, Le Messager d'Athenes, 19 May 53

The Damascus newspaper Al Ahaya reports that "flying saucers" were seen recently above the city of Homs, Syria, coming from the south.

LUMINOUS OBJECT SEEN IN SKY OVER ABADAN -- Tehran, Etela'at, 20 May 53

This newspaper was informed by its correspondent in Abadan that at 1855 hours, on 18 May 1953, a luminous object was seen in the sky over Abadan. The object was reported to be as bright as the sun and to have the shape of a new moon (but several times larger than a new moon). It traveled extremely fast and could be seen for 20 minutes. It was also reported that the same object was seen over all the oil areas in Khuzistan.

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CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. OO-W-29151

CD NO. --

COUNTRY	Spain, Greece, French Morocco, Algeria	DATE OF INFORMATION	1953
SUBJECT	Military - Unidentified aircraft		
HOW PUBLISHED	Daily newspapers	DATE DIST.	11 Jan 1954
WHERE PUBLISHED	Athens, Salonica, Constantine	NO. OF PAGES	2
DATE PUBLISHED	19 Jul - 6 Nov 1953		
LANGUAGE	Greek, French	SUPPLEMENT TO REPORT NO.	

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE As indicated

UNIDENTIFIED AIRCRAFT REPORTED OVER SPAIN, GREECE, NORTH AFRICA

"FLYING SAUCERS" REPORTED SEEN OVER SPAIN -- Athens, I Kathimerini, 19 Jul 53

Paris (Special Services) -- According to reports from Madrid, "flying saucers" were seen during the last few days in [an unidentified area of] Spain.

Witnesses stated that a luminous, circular object, emitting a red reflection and flying like a jet plane, was seen flying noiselessly in a northwest direction. Inhabitants of the village of San Martin Valdeiglesias also saw a luminous, spherical object, which disappeared toward the west after being observed for a considerable length of time.

SEE LUMINOUS, ROCKET-SHAPED OBJECT IN SKY OVER DRAMA -- Salonica, Makedonia, 13 Aug 53

It was reported from Drama, Greece, that a luminous, rocket-shaped object was noted at 2225 hours on 11 August 1953 in the southeastern part of the sky over that city. The object flew at a rather low altitude and was seen remaining stationery in the air for 3-4 minutes, after which it disappeared.

SEE STRANGE FLYING OBJECT NEAR CASABLANCA -- Athens, Eleftheria, 5 Sep 53

According to a report from Oued Zem, a town southeast of Casablanca, French Morocco, some of the inhabitants heard a thunderous noise on the night of 2 September 1953. The next day, two shepherds said they had seen a flying object, lighted in many colors and flying at great speed.

WHERE PUBLISHED Athens, Salonica, Constantine

NO. OF PAGES 2

DATE PUBLISHED 19 Jul - 6 Nov 1953

SUPPLEMENT TO REPORT NO.

LANGUAGE Greek, French

[redacted]

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CLASSIFICATION [redacted]

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ARMY	AIR	FBI					

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CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. OO-W-30797

CD NO. --

COUNTRY	Non-Orbit	DATE OF INFORMATION	1954
SUBJECT	Military - Unidentified flying objects		
HOW PUBLISHED	Newspapers	DATE DIST.	30 Jul 1954
WHERE PUBLISHED	As indicated	NO. OF PAGES	3
DATE PUBLISHED	19 Jan-15 May 1954	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Various		

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE As indicated

SIGHTINGS OF UNIDENTIFIED FLYING OBJECTS, 19 JANUARY-15 MAY 1954

WESTERN EUROPE

France

UNIDENTIFIED OBJECT OVER SAINT MEXANT -- Paris, Le Figaro, 18 Apr 54

On 15 April 1954, two residents of Saint Mexant, Correge Department, observed an elongated, cone-shaped object with two red and green lights at the base, flying at a high altitude from the northwest toward the southwest.

SIGHT UNIDENTIFIED OBJECT OVER PYRENEES -- Istanbul, Vatan, 28 Apr 54

Bayonne, 27 April 1954 (Anatolian Agency) -- On 26 April 1954, a group of persons taking a walk near Sare in the region close to the Pyrenees border observed a cigar-shaped object traveling rapidly at an altitude of 2,000 meters in the direction of Spain.

Sweden

SIGHTINGS OVER SWEDEN, NORTHERN NORWAY -- Stockholm, Dagens Nyheter, 14 May 54

WHERE PUBLISHED As indicated

NO. OF PAGES 3

DATE PUBLISHED 19 Jan-15 May 1954

SUPPLEMENT TO REPORT NO.

LANGUAGE Various

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE As indicated

SIGHTINGS OF UNIDENTIFIED FLYING OBJECTS, 19 JANUARY-15 MAY 1954

WESTERN EUROPE

France

UNIDENTIFIED OBJECT OVER SAINT MEXANT -- Paris, Le Figaro, 18 Apr 54

On 15 April 1954, two residents of Saint Mexant, Correge Department, observed an elongated, cone-shaped object with two red and green lights at the base, flying at a high altitude from the northwest toward the southwest.

SIGHT UNIDENTIFIED OBJECT OVER PYRENEES -- Istanbul, Vatan, 28 Apr 54

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Sweden

SIGHTINGS OVER SWEDEN, NORTHERN NORWAY -- Stockholm, Dagens Nyheter, 14 May 54

On the morning of 13 May 1954, three persons in three different areas of Norrbotten Province, Sweden, observed a "brilliant, silver-colored sphere with a tail."

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DATE ...

CLASSIFICATION [redacted]

STATE	NAVY	NSRB	DISTRIBUTION
ARMY	AIR	[redacted]	

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It was reported from Hammerfest, Norway, that on the same day, three bright objects passed over Kautokeino (in northern Norway) at great speed. They flew in V-formation and disappeared toward the southwest. A deputy constable who had observed them with binoculars stated that they flew so high that he could not ascertain their shape but that they were not ordinary airplanes. He added that they seemed to be red on one side and white on the other and appeared to be rotating.

Norway

UNIDENTIFIED FLYING OBJECTS OVER NORTHERN NORWAY -- Copenhagen, Berlingske Tidende, 15 May 54

Oslo, 14 May -- Luftkommando Nord (Air Command North) has received a number of reports that indicate that the flying objects observed over Finnmark Province, Norway, at 1210 hours on 13 May were not conventional aircraft or meteorological balloons. Sheriff Oskal of Kautokeino, three of his deputies, and two clerks observed the three objects through binoculars for 4-5 minutes. Oskal described them as flying in formation at an altitude of about 2,000 meters, being triangular in shape [sic; probably a reference to the V-formation mentioned above], reddish brown on the underside and shiny on the upper, and moving with a rotary motion. They left no smoke. The weather was clear and visibility perfect.

NEAR EAST/AFRICA

Algeria

FLYING OBJECT REPORTED OVER THREE CONSTANTINE DEPARTMENT TOWNS -- Constantine, La Depeche de Constantine, 19 Jan 54

At 1330 hours on 18 January, many persons in Saint Arnaud observed an object leaving a double trail of white smoke, describing an immense circle over the town. Several officers at La Remonte [military base nearby?] even heard a strange sound made by the object, which seemed to have come from the north. (A similar observation had been made on 16 January, when the object had come from the west.) The meteorological station at Oued Bamimine airport (near Constantine) reported that it had observed a double trail of smoke at 1400 hours but concluded that the smoke came from a plane flying at great altitude.

At 1430 hours, inhabitants of Setif saw an object arrive from the east, emitting bluish smoke trails and moving relatively slowly. After circling above the town for several seconds, it suddenly headed back in the direction of Saint Arnaud at great speed. Most of the spectators described it as being cigar-shaped and flying at high altitude.

Finally, at 1645 hours on the same day, a large, luminous, rectangular-shaped object was seen over Ouled Djellal (200 kilometers southwest of Setif) for over 30 minutes following a rectilinear course. The object came from the east and disappeared toward the west.

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ARCHIVAL RECORD
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AGENCY ARCHIVES,

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Union of South Africa

SIGHTING OVER WORCESTER -- Cape Town, Die Burger, 17 Apr 54

At 2000 hours on 16 April 1954, C. Horn of Worcester saw what appeared to be a blood-red star in motion. When he looked through a telescope, he could also detect moving objects around the star. The "star" climbed obliquely at a very fast rate and moved upward with a jerky motion, alternately starting and stopping. It seemed to sway like a balloon and became brighter as it rose. Finally, the object headed north.

FAR EAST

British Malaya

SIGHTINGS OF CIGAR-SHAPED OBJECTS -- Istanbul, Son Posta, 15 Mar 54

Kuala Lumpur (Anatolian Agency), 14 March 1954 -- On 12 March, harbor workers at Swettenham sighted a flying object which resembled a cigar and which left a white trail behind it. The object, which slowly disappeared in the clouds, has not been identified.

Istanbul, Hurriyet, 19 Mar 54

Kuala Lumpur -- On 17 Mar 1954, a second cigar-shaped object was observed in the sky over certain portions of British Malaya. It was seen by residents of the towns of Por Swettenham, Cheras-Swettenham, and Cheras.

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LIBRARY SUBJECT AND AREA CODES

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ARCHIVAL RECORD
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CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
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REPORT NO. OO-W-29903

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SUBJECT	Military; Scientific - Unidentified flying objects		
HOW PUBLISHED	Daily newspapers	DATE DIST.	20 Apr 1954
WHERE PUBLISHED	As indicated	NO. OF PAGES	4
DATE PUBLISHED	2 Nov 1953-27 Jan 1954		
LANGUAGE	French, German, Afrikaans, Swedish	SUPPLEMENT TO REPORT NO.	

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SOURCE As indicated

SIGHTINGS OF UNIDENTIFIED FLYING OBJECTS

PAKISTAN

FLYING SAUCERS OVER PESHAWAR -- Paris, Le Figaro, 23 Dec 53

Two brilliant objects flying at an altitude of more than 4,700 meters were seen over Peshawar on the night of 21 December. The objects, coming from the southeast and thought to be flying saucers, disappeared in the direction of Afghanistan. Witnesses who saw the saucers said they emitted red and green flames. [The Salonica daily newspaper, Makedonia, in its 23 December edition reported substantially the same facts on this incident and added that in January 1953 similar objects were seen over Peshawar, headed over the Khyber Pass.]

UNION OF SOUTH AFRICA

FLYING SAUCER FOLLOWS MAN -- Capetown, Die Landstem, 28 Nov 53

Heretofore, Die Landstem has not been able to publish the full story of the incident described below, which occurred on 26 May 1953. The incident was reported by the observer to the Department of Defense in Pretoria. The latter acknowledged receiving the report but did not make it public.

Dr D. Beyers of Uppington, while driving in his automobile from Capetown to Uppington, had reached a point about 80 miles south of Brandvlei (between Kenhardt and Calvinia), when, at about 0510 hours, he suddenly saw a bright yellowish green light which illuminated the clouds from behind. Shortly there-

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object emitted three streaks of light which maintained a fixed position with respect to the main light. Beyers observed the phenomenon from 0510 until 0600. He added, "I was under the impression that the object was following me because each time I stopped the car to watch it, it increased its altitude."

DAHOMEY, FRENCH WEST AFRICA

LUMINOUS FLYING BODY SIGHTED AT DJOGOU -- Dakar, Paris-Dakar, 2 Nov 53

At about 2330 hours on 11 October 1953, many residents of Djogou in northwest Dahomey observed in the sky an oblong-shaped, luminous object flying at a high speed toward the north, at an altitude of about 1,500 meters and on a horizontal plane. This is the first reported sighting of a so-called flying saucer over Dahomey.

FRANCE

CELESTIAL DISK CHANGES FORM -- Bordeaux, Sud-Ouest, 12 Dec 53

At about 1545 hours on 9 December, Charles Huaut, a carpenter from Saint-Emilion, Gironde Department, observed a luminous, golden, round object poised motionless at a high altitude. After 10 minutes, it changed position noiselessly and assumed the form of several horseshoes, measuring about 100 meters in diameter, enveloped in smoke trails. Then the entire phenomenon disappeared. Several other persons reported having seen it at the time indicated above.

At approximately the same time as Huaut made his observation, a man named Simonneau and his wife, from Surgeres, Charente-Maritime Department, saw a round object in the sky. It glowed with the colors of the rainbow and flew at a great speed from north to south.

BRILLIANT WHITE DISK SIGHTED -- Nice, Nice-Matin, 12 Dec 53

Recently, Madet, a civil servant of Montlucon, Allier Department, sighted a brilliantly luminous white disk in the sky at approximately 2100 hours. It was visible for 2 minutes, then traveled off at a great speed and disappeared, without seeming to change its altitude, in the direction of the Auvergne Mountains. A short while later, Madet saw a red, crescent-shaped object which appeared to be three times as large as the moon in its first quarter. The object disappeared at a very great speed toward the southwest.

UNIDENTIFIED AIRCRAFT AT MARIGNANE AIRFIELD -- Nice, Nice-Matin, 9 Jan 54

Shortly after 2100 hours on 4 January, a round, luminous machine, coming from the south, landed at the Marignane airfield in Bouches-du-Rhone Department. There was only one witness present at the field. The machine disappeared while he was telephoning the control tower. Careful scrutiny of the runway in the morning turned up a few pieces of metallic debris. The witness' story was confirmed by that of a Marseilles resident who, driving from Arles to Marseilles saw a large, round, reddish, fiery ball in the sky, but placed the time at 2245 hours.

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ARCHIVAL RECORD
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ROUND FLYING OBJECT SIGHTED AT LUNEVILLE -- Nice, Nice-Matin, 10 Jan 54

Three residents of Luneville, Meurthe-et-Moselle Department, claim to have seen a round object flying from north to south at about 0600 hours on 9 January. The object flew more slowly than a jet plane and left a luminous yellow trail. It flew noiselessly, although appearing to be at a low altitude. Several students of the College de Luneville also saw the object.

UNEXPLAINED PHENOMENON IN PUY-DE-DOME SKY -- Nice, Nice-Matin, 10 Jan 54

On the morning of 8 January, the residents of the small hamlet of Monthaleix, in the commune of Chambon-sur-Lac, Department of Puy-de-Dome, were awakened by the sound of an airplane motor. The noise lasted from 0530 to 0730 hours. A large greenish flash was seen and the noise stopped. The Aix-en-Provence ground station had received no distress calls from aircraft.

EXPLOSION IN SKY BREAKS WINDOWS AT DIEPPE -- Stockholm, Dagens Nyheter, 8 Jan 54

Paris (TT-AFP) -- Inhabitants of Dieppe were awakened early on the morning of 7 January by a loud crash, accompanied by a dazzling light in the sky. The explosion was so powerful that doors were thrown ajar and many window panes were broken.

Up to now, no explanation for the phenomenon has been found. A railwayman in Orchies, near the Belgian frontier, claims that at about the same time as the explosion he saw a luminous flying saucer cross the sky at a very great speed.

SWEDEN, DENMARK

SWEDISH METEOR EXPERT REPORTS TO SWEDISH DEFENSE STAFF -- Stockholm, Dagens Nyheter, 27 Jan 54

Meteor expert Bertil Lindblad of the Lund Observatory has submitted a reassuring report to the Swedish Defense Staff, regarding the flying saucer which a Transair Airlines pilot, Capt Ulf Christiernsson, reported he saw on 17 December over Hässleholm and the large meteor sighted over southern Sweden, Bornholm, and Denmark on 9 January. [For information on the meteor, see last story in this section.] In this report, Lindblad, who holds that the Hässleholm flying saucer may well have been a meteor, "gave the scientific explanation, from a military point of view, of the suspicious fact that most of the balls of fire fly in from the east."

UNUSUALLY LARGE METEOR SIGHTED OVER LARGE PORTIONS OF DENMARK -- Stockholm, Svenska Dagbladet, 6 Dec 53

Copenhagen, 5 December -- An unusually large meteor was observed today over large portions of Denmark at 1650 hours. The first reports came from north Jutland where the meteor was seen moving in a southwesterly direction at a very high altitude. It had a brilliant cigar-shaped nucleus and a long luminous trail. The sighting of a meteor at the same time as the sighting in Jutland was reported from Hälsingborg, Sweden, from Bornholm, and from the area around the Danish-German frontier.

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LARGE METEOR EXPLODES -- Stockholm, Dagens Nyheter, 10 Jan 54

A large ball of fire which was seen over large parts of Skaane, Blekinge, Smaaland, and west coast of Sweden passed through the sky over Lund at a speed of about 10,000 kilometers per hour at about 1616 hours on 9 January. The ball disappeared in a westerly direction and emitted a long trail of sparks. According to reports from Denmark, the ball appeared to have exploded over Copenhagen, leaving a smoke formation which remained for 10 minutes. Some persons thought a jet plane had exploded and others thought it was a flying saucer. Reports streamed into the Swedish Air Force from all over southern Sweden.

According to Bertil Lindblad of the Lund Observatory who witnessed the phenomenon, there is no doubt that it was a meteor with an apparent diameter of one third that of the moon and a luminosity of the moon. The trail of the meteor was photographed at the observatory. Observer Nielsen, at the Ole Römer Observatory in Aarhus, Denmark, received reports of the meteor from Aarhus and Copenhagen. He is not of the opinion that it exploded over Copenhagen but thinks that the explosion might have taken place 100 kilometers away. [The article also contains a request by Bertil Lindblad that persons who saw the meteor submit written discriptions of it to him.]

LARGE METEOR EXPLODED OVER SOUTHERN HALLAND -- Stockholm, Dagens Nyheter, 13 Jan 54

The large meteor sighted on 9 January clearly exploded at a great altitude over southern Halland. Preliminary calculations show that the meteor was traveling in a general east-west direction and exploded in a shower of sparks in the forested area between Knared and Markaryd. [Above request by Bertil Lindblad repeated in this article.]

WEST GERMANY

FLYING OBJECT LEAVES TRAIL OF FIRE -- Hamburg, Hamburger Abendblatt, 7 Dec 53

On 5 December at 1640 hours, a strange flying object was observed over Bad Oldesloe [about 20 miles west of Luebeck]. Eyewitnesses report that it was flying at an altitude of 5,000 to 6,000 meters and from northeast to southwest. A trail of fire, as from a rocket, could clearly be distinguished at the rear and on the side of the object. A police patrol which observed the object stated that is was elongated and smaller than an airplane.

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ARCHIVAL RECORD
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CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. OO-W-30956

CD NO. --

COUNTRY	Finland, Norway, Austria	DATE OF INFORMATION	1954
SUBJECT	Military - Unidentified flying objects		
HOW PUBLISHED	Daily newspapers	DATE DIST.	22 Sep 1954
WHERE PUBLISHED	As indicated	NO. OF PAGES	2
DATE PUBLISHED	10 Jun-15 Jul 1954	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Finnish, Norwegian, German		

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SIGHTINGS OF UNIDENTIFIED FLYING OBJECTS 10 JUNE-15 JULY 1954

UNIDENTIFIED OBJECTS PHOTOGRAPHED IN FINLAND DURING AND AFTER ECLIPSE -- Helsinki, Helsingin Sanomat, 11 Jul 54

Several photographs of an unidentified object in the sky were taken in Helsinki during the eclipse on 30 June 1954. According to informed circles, a round object which appears on the photographs is not the moon or a cloud. One photograph differs from the others in that the upper edge of the object is illuminated as if the sun were shining on a hard surface. The center of the object appears as a dark blotch. [The photograph described is shown in source.]

Helsinki, Helsingin Sanomat, 12 Jul 54

A strange object was photographed in the sky in Maarianhamina immediately after the sun was in full view, following the eclipse on 30 June 1954. The cigar-shaped object appeared on several pictures taken consecutively. [A photograph of the object is shown in source.]

REPORT LATER SIGHTING IN FINLAND -- Helsinki, Helsingin Sanomat, 15 Jul 54

On 14 July 1954, an unidentified, oblong object was sighted at Pulkkila, flying [southwest] in the direction of Haapavesi-Nivala. The object, which was flying very high, appeared grey from the rear and very bright from the side. The object was in view for several minutes and was flying with the speed of an

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DATE PUBLISHED 10 Jun-15 Jul 1954

SUPPLEMENT TO REPORT NO.

LANGUAGE Finnish, Norwegian, German

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CLASSIFICATION [redacted]

STATE		NAVY		NSRB		DISTRIBUTION						
ARMY		AIR										

ARCHIVAL RECORD
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00-W-30956

UNIDENTIFIED FLYING OBJECTS FILMED IN NORWAY DURING ECLIPSE -- Oslo, Aftenposten, 6 Jul 54 (PM edition)

Color motion pictures of unidentified flying objects were obtained by photographer Johnny Bjoernulf during the recent total eclipse of the sun. The pictures, which were obtained from an airplane flying at an altitude of 4,500 meters, show two shining disks with condensation trails moving at great speed in the direction opposite to that of the plane. [Photographs are shown in source.]

UNIDENTIFIED FLYING OBJECT SIGHTED IN AUSTRIA -- Salzburg, Salzburger Nachrichten, 10 Jun 54

A contractor in Hallein, Austria, reported to the gendarmerie that he and two other men sighted a strange object in the sky over the Tennen Mountains shortly after midnight on 7 June 1954. The object was gleaming red and appeared to have a diagonal streak across it. It seemed to be about three times as large as Venus and moved spasmodically in a vertical and then a horizontal direction. The object was in view for 2 hours.

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LIBRARY SUBJECT AND AREA CODES

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LIBRARY SUBJECT AND AREA CODES

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ARCHIVAL RECORD
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CLASSIFICATION [redacted]

CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. OO-W-30339

CD NO. --

COUNTRY	Non-Orbit	DATE OF INFORMATION	1953-1954
SUBJECT	Military - Unidentified aircraft	DATE DIST.	26 May 1954
HOW PUBLISHED	Newspapers		
WHERE PUBLISHED	As indicated	NO. OF PAGES	3
DATE PUBLISHED	10 Dec 1953-2 Mar 1954	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Various		

[redacted] THIS IS UNEVALUATED INFORMATION

SOURCE As indicated

NON-ORBIT SIGHTINGS OF UNIDENTIFIED FLYING OBJECTS,
10 DECEMBER 1953-2 MARCH 1954

WESTERN EUROPE

[The first three items in this section may refer to incident cited in OO-W-29903 in the item entitled "Explosion in Sky Breaks Windows at Dieppe."]

Belgium

BALL OF FIRE SEEN OVER BRUSSELS -- Liege, Le Monde du Travail, 10 Jan 54

On 7 January 1954 at 0420 hours, a Sabena pilot preparing to land at Melsbroek saw a ball of fire low on the horizon, moving in a north-northwesterly direction. The ball was white, edged with green, and was followed by a long trail. The phenomenon illuminated the whole sky and the pilot supposed at the time that it was a green rocket signal set off by the airport authorities. Since the latter denied this, it was assumed that he had seen the same light which was seen over Dieppe.

France

FIERY DISK SEEN AT ARRAS -- Casablanca, Le Petit Marocain, 8 Jan 54

At approximately 0427 hours on 7 January 1954, a fiery disk, followed by [illegible] was sighted in Arras, Pas-de-Calais Department. An observer

WHERE PUBLISHED As indicated

NO. OF PAGES 3

DATE PUBLISHED 10 Dec 1953-2 Mar 1954

SUPPLEMENT TO REPORT NO.

LANGUAGE Various

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FIERY DISK SEEN AT ARRAS -- Casablanca, Le Petit Marocain, 8 Jan 54

At approximately 0427 hours on 7 January 1954, a fiery disk, followed by a luminous trail, was sighted in Arras, Pas-de-Calais Department. An observer stated that the disk remained motionless in the sky for an instant, after which it flew away and disappeared over the horizon.

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STATE		NAVY		NSRB		DISTRIBUTION					
ARMY		AIR		FBI							

D - 6415

DIEPPE "FLYING SAUCER" CALLED METEORITE -- The Hague, Nieuwe Haagsche Courant, 9 Jan 54

French (Paris) astronomers are convinced that the object which exploded over Dieppe recently was an exceptionally large meteorite.

CELESTIAL PHENOMENON AT GEMEAUX -- Basel, National-Zeitung, 11 Jan 54

(AFP) -- For a few seconds, inhabitants of Gemeaux, Cote d'Or Department, recently [date and time not given] observed in the sky a red ball surmounted by a triangle. The phenomenon moved on without leaving a trail. The same observation was reported by several witnesses from Nouvelles-les-Champlitte and Langras.

NEAR EAST/AFRICA

Algeria

CIGAR-SHAPED OBJECT SEEN -- Douala, L'Eveil du Cameroun, 10 Dec 53

A cigar-shaped object flying toward the northeast at a high altitude and leaving a trail of smoke behind it was recently observed by thousands of people in several parts of Algeria.

LUMINOUS DISK SIGHTED OVER CONSTANTINE AREA -- Tunis, La Presse de Tunisie, 16 Jan 54

At 1030 hours on 12 January 1954, a "flying saucer" crossed the sky over Saint Arnaud, in the Constantine area. The phenomenon was witnessed by many persons, including Cunat [fnu], director of the Ecole Clemenceau (Clemenceau School), and his staff and students. The weather was very good, and the visibility was excellent. The witnesses described the object as a luminous disk moving from west to east, leaving long trails similar to ribbons. Its speed did not appear to be great, but it was impossible to determine its altitude. It disappeared quickly over the horizon.

UNIDENTIFIED OBJECT OVER ALGIERS -- Algiers, Le Journal d'Alger, 28 Jan 54

According to statements by several persons, a round, luminous, yellow-orange object appeared in the sky over Algiers at 1525 hours on 27 January 1954; it was moving in the direction of Cap Matifou. The object grew larger, until it was two or three times the size of the sun; then it diminished in size and disappeared on the horizon, sinking, seemingly, into the sea.

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00-W-30339

LATIN AMERICA

Uruguay

"FLYING SAUCER" OVER MONTEVIDEO -- Fes, Le Courrier du Maroc, 2 Mar 54

On 1 March 1954, numerous bathers at the beaches near Montevideo observed a "flying saucer," a sort of metallic disk emitting yellowish reflections. It remained stationary for 2 minutes at an altitude of several thousand meters.

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CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
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REPORT NO. 00-W-30367

CD NO. --

COUNTRY	Non-Orbit	DATE OF INFORMATION	1953-1954
SUBJECT	Military - Air Scientific - Aeronautics	DATE DIST.	27 May 1954
HOW PUBLISHED	Newspapers		
WHERE PUBLISHED	As indicated	NO. OF PAGES	2
DATE PUBLISHED	12 Dec 1953-12 Jan 1954	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Various		

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SOURCE As indicated

"FLYING SAUCER" THEORIES AND EXPERIMENTS

DISCUSSES "FLYING SAUCERS" -- Dakar, Paris-Dakar, 12 Dec 53

In a recent issue of Forces Aeriennes Francaises, a monthly periodical published by the Comite d'Etudes Aeronautiques Militaires (Study Committee on Military Aeronautics), which is headed by General P. Fay, Chief of Staff of the Air Force, an article develops the idea that supersonic interstellar ships powered by cosmic energy are possible. The article was written by Lieutenant Plantier of the Ecole de l'Air de Salon (Salon Aeronautical School). [Paris-Dakar describes the article in some detail and suggests that its acceptance by the periodical indicates that the French Air Force admits the existence of "flying saucers." The same article received coverage in the 26 November 1953 issue of the Beirut daily newspaper L'Orient.]

DESCRIBES SAUCER EXPERIMENTS -- Capetown, Die Landstem, 9 Jan 54

A German newspaper [not further identified] recently published an interview with George Klein, famous German engineer and aircraft expert, describing the experimental construction of "flying saucers" carried out by him from 1941 to 1945. Klein stated that he was present when, in 1945, the first piloted "flying saucer" took off and reached a speed of 1,300 miles per hour within 3 minutes. The experiments resulted in three designs: one, designed by Miethe, was a disk-shaped aircraft, 135 feet in diameter, which did not rotate; another, designed by Habermohl and Schreiver, consisted of a large rotating ring, in the center of which was a round, stationary cabin for the crew. When the Soviets occupied Prague, the Germans destroyed every trace of the "flying saucer" project [there] and nothing more was heard of Habermohl and his assistants. Schreiver recently died in Bremen, where he had been living. In Breslau, the Soviets managed to capture one of the saucers built by Miethe, who escaped to France.

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NO. OF PAGES 2

DATE PUBLISHED 12 Dec 1953-12 Jan 1954

SUPPLEMENT TO REPORT NO.

LANGUAGE Various

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STATE		NAVY		NSRB		DISTRIBUTION					
ARMY		AIR		FBI							

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00-W-30367

FLYING DISK PATENTED -- Naples, Il Giornale, 12 Jan 54

According to a Genoa newspaper [not further identified], the patent office of the Genoa Chamber of Commerce has issued a patent for a flying disk to Scipione Mattolin, 38, a Venetian naval fitter residing in Genoa. The invention is patented as No 165 of Patent Register 125. The disk would cost in excess of 500 million lire; it could attain a speed of 3,000 kilometers per hour. Mattolin has offered his invention to Italy, but it has been turned down; he intends to emigrate and offer it elsewhere.

The Fes daily newspaper Le Courrier du Maroc, in its 12 January 1954 issue, stated that the disk will weigh 5 tons and will take off from a tower 18 meters high. It will consist of a disk-shaped plastic wing, an aluminum central sphere, and a cockpit containing two jet engines. The Stockholm daily newspaper Stockholms-Tidningen, on 12 January 1954, reported that Mattolin is in contact with US authorities.]

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CLASSIFICATION [redacted]

CENTRAL INTELLIGENCE AGENCY
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REPORT NO. OO-W-29745

CD NO. [redacted]

COUNTRY	Sweden	DATE OF INFORMATION	1953
SUBJECT	Military - Unconventional aircraft	DATE DIST.	1 APR 1954
HOW PUBLISHED	Daily newspaper		
WHERE PUBLISHED	Stockholm	NO. OF PAGES	4
DATE PUBLISHED	18-20 Dec 1953	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Swedish		

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE Dagens Nyheter

VETERAN SWEDISH AIRMEN OBSERVE, DESCRIBE DISK-SHAPED AIRCRAFT OVER SKAANE

/The information in this report was taken from three articles which appeared in the liberal Stockholm daily, Dagens Nyheter on 18, 19, and 20 December 1953. In the rendition of the first two articles (18 and 19 December), repetitious elements have been omitted. The third article is given in full.

Numbers in parentheses refer to appended sources./

The chief pilot for Transair Airlines, Flight Captain Ulf Christiernsson, and his flight mechanic, Olle Johansson, reported that on the afternoon of 17 December 1953, while flying in a DC-3 over Skaane, they sighted a mysterious circular metal object flying in an opposite direction of them at a speed estimated at about the speed of sound. The airmen estimated that the object was about 10 meters in diameter.

Captain Christiernsson, at present employed by Transair in flying the morning [Stockholm] papers to southern Sweden, has very extensive air experience, having served as a volunteer with the RAF from 1942-1946, finishing his service with the rank of captain. He flew 30 missions against enemy territory from North Africa and Italy.

Captain Christiernsson made the following statement to Dagens Nyheter: "I do not doubt for an instant that it was not a jet plane. What I saw was a completely unorthodox, metallic, symmetric, round object which was unlike anything I have seen before. The mysterious object appeared suddenly on the air route traveled by all controlled air traffic between Bulltofta and Bromma airfields [at Malmö and Stockholm respectively]. I myself was en route to Bromma.

WHERE PUBLISHED Stockholm

NO. OF PAGES 4

DATE PUBLISHED 18-20 Dec 1953

SUPPLEMENT TO REPORT NO.

LANGUAGE Swedish

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THIS IS UNEVALUATED INFORMATION

SOURCE Dagens Nyheter

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CLASSIFICATION [redacted]

STATE		NAVY		NSRB		DISTRIBUTION					
ARMY		AIR		FBI							

#13

Over Hässleholm, I saw an object -- on my right and obliquely in front of me, flying at a somewhat lower altitude -- which at first I thought to be a jet plane. The silhouette was thin and it approached me at a very high velocity. Olle Johansson and I have discussed the matter of its speed, and comparing its speed with, for example, that of the "Flying Barrels" [J-29], we have estimated the speed to be about that of sound. The whole business took place fantastically quickly, but I believe that I was able to see the object for 4 to 5 seconds.

"When the object got closer, I was able to ascertain that it was symmetric and metallic. It is very difficult to describe something that one has never seen before, but I would say that it looked like a flying lozenge. The object did not seem to have a crew, but seemed more to be a robot. When it passed under the wing [of the DC-3], I could no longer see it. The mechanic, who was able to observe it for five more seconds, confirms the fact that it was circular or possibly somewhat elliptical in form. At the time of the incident, we were flying at an altitude of 2,150 meters and the cloud ceiling was about 1,500 meters. Thus, the object should have been flying at an altitude of between 1,500 and 1,600 meters. We estimated the size to be about 10 meters in diameter. It left no exhaust or condensation trail.

"We are both absolutely convinced that it could not have been a meteor or other celestial phenomenon. We did not see any distinct light but were only able to see that the object had a metallic lustre. Immediately after the observation, we reported to F5 in Ljungbyhed and to the regional civil air security service at Bulltofta. The course of the object was south-southwest. The whole thing happened so quickly that we could not have managed to change course [and follow the object]..."

Olle Johansson's statement was as follows: "I was sitting forward in the right-hand seat of the pilot's cabin when Captain Christiernsson pointed to the object. What I saw was an ellipse with sharp outlines and something between silver and white in color. I saw it for about 10 seconds. It was approaching from the north in a direction opposite to ours, at a speed of about 1,200 kilometers per hour. It was flying entirely above the clouds. From Malmö northward, we were able to see the ground for only a few myriameters and after that there was a cloud covering all the way to Stockholm. We were flying at a speed of about 270 kilometers per hour. Ten minutes after the incident, we met an SAS (Scandinavian Airlines System) DC-4. Thereupon, we estimated the object's speed at about three times that of the DC-4. There seemed to be no flames or smoke trail from the object. Since we had the automatic pilot on, we had no chance to turn quickly enough to see where the object went."

The Defense Staff's short communique on the incident read as follows: "At 1457 hours on Thursday, the crew on a civilian commercial plane observed, in the vicinity of Hässleholm, an unknown object which moved at a high speed in a direction opposite to that of the plane. The object was viewed for 6 to 7 seconds. At the time of the incident, there was clear weather at the altitude at which the plane was flying. Because of the low cloud ceiling, the object could not have been seen from the ground. Within the knowledge of the Defense Staff, there was no Swedish plane in the area concerned at the time of the incident. Investigation continues."

Reports of "flying saucers" have arisen in both Europe and America on countless occasions in recent years but, according to a statement to Dagens Nyheter by a member of the Air Staff, these observations over Skaane can be termed the clearest and most detailed which heretofore have been made regarding mysterious, unknown aircraft.(1)

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Experts Say Object Was Daylight Meteorite

Both the Defense Staff and the Air Staff were working feverishly on Friday (18 December) to solve the mystery of the "flying lozenge." They arrived at no definite result, but the experts are mostly of the opinion that the observed object was a daylight meteorite. The possibility that it was a ballon or an unknown type of foreign aircraft is not ruled out, however. The theory of a meteorite was put forth by one of the persons in Sweden best acquainted with the region, Bertil Lindblad of the observatory in Lund.

According to Lindblad, precisely in December the earth passes a swarm of meteors known as the Geminids. The maximum occurred on 13 December. Studies of the meteors have shown that just at the time of day at which the object was seen -- about 1500 hours -- the meteors are approaching the earth at an angle of 3 degrees which means that their path is nearly parallel to the earth's surface. The direction of the meteors is from north to south with a displacement of 17 degrees which also seems to agree with the observations made. In space, meteors have a speed of 36 kilometers per second, but the speed is reduced very greatly when they come into the vicinity of the earth. It has not heretofore been possible to observe meteors during the day so it is not known how they look in daylight. When the earth passed the same meteor swarm last year, a lone meteor was observed some days after the swarm had disappeared. That meteor was plainly a straggler. It was observed at night, however, and therefore gave off a weak, red glow. It fell also at an entirely different angle since it was a different time of day.

Captain Källenius of the Defense Staff stated that other possible explanations of the phenomenon have not been written off by any means. To be sure, no Swedish balloons have been sent up, but propaganda and weather balloons have been sent up from both Germany and Denmark. With the type of wind and weather prevailing in recent days, it would have been possible for a balloon to have been driven over Sweden. Captain Christiernsson and his mechanic, Olle Johansson, stated in their report that the speed of the object approached that of sound; however, there is great difficulty in judging speeds of suddenly appearing objects, even for experienced observers. Captain Källenius commented that if a balloon prior to its observation had soared to a great altitude, it might have lost some of its gas, giving it a flat form.

In some quarters, Captain Christiernsson's report has been regarded as a prank. The Defense Staff, however, does not consider it a prank. Christiernsson, on returning from another flight to Malmö on Friday, gave heated assurances that his report was the absolute truth. He said, "To be sure, I joke a bit, but one does not joke about things like this. I saw something and reported my observations. What it was, I do not know."(2)

Object Stated to Be Advertising Balloon

The mysterious "flying lozenge" over Hässleholm was probably neither a meteor nor a robot weapon, it was more likely an advertising balloon for a Skaane perfume firm. The object was observed at 1500 on Thursday (17 December) and on the same day between 1200 and 1300, Director Bertil Dahlström of Malmö had been up at Åsphult on Linderodsaasen, some myriameters south of Hässleholm, to release 300 advertising balloons.

On Saturday evening (19 December) Dahlström telephoned Dagens Nyheter's Malmö office and said, "With all certainty, it is one of our balloons which the flyers saw. On Thursday noon, we sent up over 300 balloons of various colors. Their sizes varied from 15 to 30 centimeters in diameter. According to what

Sweden best acquainted with the region, Bertil Lindblad of the observatory in Lund.

According to Lindblad, precisely in December the earth passes a swarm of meteors known as the Geminids. The maximum occurred on 13 December. Studies of the meteors have shown that just at the time of day at which the object was seen -- about 1500 hours -- the meteors are approaching the earth at an angle of 3 degrees which means that their path is nearly parallel to the earth's surface. The direction of the meteors is from north to south with a displacement of 17 degrees which also seems to agree with the observations made. In space, meteors have a speed of 36 kilometers per second, but the speed is reduced very greatly when they come into the vicinity of the earth. It has not heretofore been possible to observe meteors during the day so it is not known how they look in daylight. When the earth passed the same meteor swarm last year, a lone meteor was observed some days after the swarm had disappeared. That meteor was plainly a straggler. It was observed at night, however, and therefore gave off a weak, red glow. It fell also at an entirely different angle since it was a different time of day.

Captain Källenius of the Defense Staff stated that other possible explanations of the phenomenon have not been written off by any means. To be sure, no Swedish balloons have been sent up, but propagenda and weather balloons have been sent up from both Germany and Denmark. With the type of wind and weather prevailing in recent days, it would have been possible for a balloon to have been driven over Sweden. Captain Christiernsson and his mechanic, Olle Johansson, stated in their report that the speed of the object approached that of sound; however, there is great difficulty in judging speeds of suddenly appearing objects, even for experienced observers. Captain Källenius commented that if a balloon prior to its observation had soared to a great altitude, it might have lost some of its gas, giving it a flat form.

In some quarters, Captain Christiernsson's report has been regarded as a prank. The Defense Staff, however, does not consider it a prank. Christiernsson, on returning from another flight to Malmö on Friday, gave beated assurances that his report was the absolute truth. He said, "To be sure, I joke a bit, but one does not joke about things like this. I saw something and reported my observations. What it was, I do not know."(2)

Object Stated to Be Advertising Balloon

The mysterious "flying lozenge" over Hässleholm was probably neither a meteor nor a robot weapon, it was more likely an advertising balloon for a Skaane perfume firm. The object was observed at 1500 on Thursday (17 December) and on the same day between 1200 and 1300, Director Bertil Dahlström of Malmö had been up at Åsphult on Linderodsaasen, some myriameters south of Hässleholm, to release 300 advertising balloons.

On Saturday evening (19 December) Dahlström telephoned Dagens Nyheter's Malmö office and said, "With all certainty, it is one of our balloons which the flyers saw. On Thursday noon, we sent up over 300 balloons of various colors. Their sizes varied from 15 to 30 centimeters in diameter. According to what we know from previous occasions, the balloons ought to rise 1,000 meters and

[redacted]

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maybe still higher, depending on the weather. To each balloon was attached an advertisement card which the finder was to return to the firm in Malmö in exchange for a bottle of cologne. Some cards have already been returned from finders with addresses in Hässleholm, so it is clear that the balloons were driven by the prevailing winds to the place where the flyers observed the mysterious lozenge."

As of Saturday evening, the Air Staff did not know about the Skaane balloons. On the other hand, the Air Staff had received a telephone call from another person in Malmö, radio technician Lundblad. On the day before the observation (16 December), he had sent up three weather balloons of a current model. The wind was so strong and in such a direction that it is not likely that any of the three balloons could have remained over Skaane. Meteorological balloons are from 1 to 2 meters in diameter.

Whether the perfume advertising balloons, which are considerably smaller than meteorological balloons, could, through angles of refraction and radiation of light, take on the appearance and size which Captain Christiernsson reported the object to be, is a question which cannot be answered until detailed calculations are made. Very likely, composite photographs and other techniques will be utilized to determine the matter.

No new observations have been reported during Saturday (19 December), and the experts are now working with the material which came in earlier. Telephone calls have been received from a number of persons with new theories, some of which will be tested. In the meantime, the balloon theory seems to have been strengthened through the latest reports from Skaane.(3)

SOURCES

1. Dagens Nyheter, 18 Dec 53

2. Ibid., 19 Dec 53

3. Ibid., 20 Dec 53

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CL/ IFICATION [redacted]

CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT NO. OO-W-30883

CD NO. --

COUNTRY	Non-Orbit	DATE OF INFORMATION	1954
SUBJECT	Military - Unidentified flying objects		
HOW PUBLISHED	Newspapers	DATE DIST.	25 Aug 1954
WHERE PUBLISHED	As indicated	NO. OF PAGES	2
DATE PUBLISHED	7 May-20 Jun 1954	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Swedish, Turkish, French, German		

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE As indicated

SIGHTINGS OF UNIDENTIFIED FLYING OBJECTS

ADDITIONAL WITNESSES TO PREVIOUS SIGHTINGS IN SWEDEN -- Stockholm, Svenska Dagbladet, 18 May 54

Luleaa -- A snowstorm on 17 May made it impossible for the Gaellivare police to investigate the celestial objects which were recently seen in various places in northern Norrbotten Province. The police do not think that the objects were meteorological balloons but do not have any theories to account for the sightings. The latest eyewitness account was given by Valdemar Ylinentalo from Kuusijaervi, who declared that he saw a silvery football-shaped object coming from the Finnish side of the boundary; it had a fiery tail 70-80 meters long and appeared to descend to earth about half a kilometer from where he was. Jenny Karlsson, another eyewitness, stated that she saw a sphere-shaped object attached to a meter-long rod pass her at a distance of 4-5 meters [sic] and come to earth in the forest, a short distance from her. No traces of this object have been found.

CELESTIAL OBJECT TO BE DUG UP IN DENMARK -- Stockholm, Svenska Dagbladet, 24 May 54

In the near future, an investigation will be made to determine whether a flying object which landed in a field near Spjellerup about 6 months ago is a meteor, a shell, or some part of a "flying saucer." The object made a hole in the field about 3.5 meters deep and 25 centimeters in diameter and passed through a thick stratum of flint. The owner of the land pushed a long iron rod into the hole and determined that the object at the bottom is metallic. It is said that at the time the object descended to earth, there were quite a number of unidentified flying objects over the area. Excavation of the object will be performed with assistance from the military.

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APPROVED FOR RELEASE
DATE 6 Jun 78

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CLASSIFICATION [redacted]

STATE		NAVY		NSRB		DISTRIBUTION					
ARMY		AIR		FBI							

#15

[redacted] 00-W-30883

SIGHT UNIDENTIFIED CRAFT OVER TAURUS MOUNTAINS OF TURKEY -- Istanbul, Yeni Sabah, 7 May 54

Mersin, 6 May 1954 -- Today, an unidentified aircraft was sighted by residents of the town of Mersin at approximately 1130 hours. The craft, which appeared over the Taurus Mountains, seemed to be about 10 meters in length and was traveling in a straight line. It was visible only for a few minutes and then disappeared.

UNIDENTIFIED FLYING OBJECTS SEEN OVER WEST GERMANY -- Douala, L'Eveil du Cameroun, 17 Jun 54

Two unidentified flying objects were reported to have been seen recently for about 10 seconds by a PTT (Postes, Telegraphes, et Telephones, Post, Telegraph, and Telephone Service) engineer and by another person between Frankfurt and Darmstadt, near the Rhein-Main Air Base. The objects were described as glowing disks, which descended almost vertically to a certain [unspecified] distance above the earth at high speed and then rose rapidly, describing a parabola. US radar did not pick up the objects.

New York, N. Y. Staats-Zeitung und Herold, 20 Jun 54

Employees of various air lines at the Duesseldorf airport recently observed a shiny, round object which approached from the south at high speed, then turned toward the west, and disappeared above the 6,000-meter overcast. An employee of the Condor aerial-advertising firm, who happened to be watching a skywriter of his firm at the time, called the object a "flying saucer" and stated that it could not possibly have been an airplane, balloon, or aerial measuring device. Several other airport employees confirmed his observation.

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[redacted] 25 AUG 1954

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[redacted] 25 AUG 1954

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(53)

ER-7-4372 A

OCT 4 1955

Honorable Gordon H. Scherer
House of Representatives
Washington 25, D. C.

Dear Mr. Scherer:

Thank you for your letter of 15 September 1955 with which you enclosed a letter to you from Thomas H. Eickhoff.

The questions which Mr. Eickhoff has raised in his letter to you are largely outside of the jurisdiction of this Agency. Section 102(d) of the National Security Act of 1947 provides that CIA shall have no police, subpena, law-enforcement powers, or internal-security functions. Insofar as Mr. Eickhoff appears interested in pursuing the problem of mail fraud in connection with George Adamski's book entitled "Inside The Space Ships", it would appear to be a problem of law-enforcement, from which we are specifically barred by statute.

CIA, as a matter of policy, does not comment on the truth or falsity of material contained in books or other published statements, and therefore it is not in a position to comment on Mr. Adamski's book or the authenticity of the pictures which it contains.

The subject matter of Mr. Adamski's book would appear to be more in the jurisdiction of the Department of Defense and the National Science Foundation, and it may be that you would wish to refer some of these questions to them for consideration.

Mr. Eickhoff's letter is returned herewith for your files.

With kindest regards.

Sincerely,

signed

Allen W. Dulles
Director

OGC:WLP/blc (20 Sept. 55)
Orig. - 1 Add.
2 - Signer
2 - Legislative Counsel w/basic
1 - OSI w/cy of basic

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Orig. - 1 Add.
2 - Signer
2 - Legislative Counsel w/basic
1 - OSI w/cy of basic

Enclosure

95C06

53

[redacted]

Chief, Contact Division, OO 25 February 1955

Chief, Support Staff, O/SI

Unusual Wire Recording [redacted]

Use [redacted]

1. According to [redacted] possesses a wire recording of an unidentified electrical transmission of unknown origin. The collector's attention is invited to [redacted] which is attached hereto for details relating to this incident.

2. It is requested that the Office of Operations attempt to obtain this recording for an investigation by this Office.

3. Recording should be sent to Support Staff/SI for transmittal to Physics and Electronics Division/SI.

[signature]
[illegible]
Deputy Chief

Enclosure: 1

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Chief, Support Staff, O/SI

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[signature]
J. R. NORDBECK
Deputy Chief

Enclosure: 1

204

[redacted] [redacted]

Chief, Chicago Office 4 March 1955

Chief, Contact Division [redacted]

New Case [redacted] - Radio Code Recording

[redacted] 1. [redacted]

Sc [redacted]

[OSI is interested in obtaining the wire recording of the radio program in which the unidentified code was heard. If they will not relinquish it permanently, please arrange to get it on loan.]

2. We would appreciate return of [redacted] to this office.

[redacted]

[redacted]

Enclosure: (1)

[redacted]

[redacted] [redacted]

[redacted]

D- #89

APPROVED FOR RELEASE
DATE 24 Nov 78

[redacted] CSI

17 March 1955

Chief, Contact Division, OO

Radio Code Recording - Case [redacted]

1. In compliance with your request of 25 February 1955 (no DIS number) we have obtained a tape copy of the wire recording which [redacted] of a message from [redacted] outer space. They [redacted] the original wire recording too highly to relinquish it, even to the government; however, they were overjoyed that [redacted] showed an interest. [redacted]

2. They have recently [redacted] the Chicago [redacted] radio operators who also claim to have recorded such messages so if you find this one interesting, we will be glad to track down the others. Our Chicago representative would appreciate knowing what your conclusions are.

[redacted]

[redacted]

Inclosure: As stated above

[redacted]

[redacted]

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Inclosure: As stated above

[redacted]

[redacted]

[redacted]

APPROVED FOR RELEASE
DATE 24 Nov 78

D- #90

[redacted]

6.1

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MEMORANDUM FOR RECORD 16 September 1954

SUBJECT: Meeting of Upper Atmosphere Rocket Research Panel

1. At the invitation of Air Force Scientific Advisory Board, I attended a meeting of the Upper Atmosphere Rocket Research Panel on 8 September at the Naval Research Laboratory, Anacostia. The two agenda items of primary concern were: 1) Higher Altitude and Satellite Vehicles, 2) International Geophysical Year, and the logistics therefor.

2. This panel was formed in 1948 by representatives of various organizations which were concerned with upper atmosphere research through rocketry. It is chaired by Dr. James A. Van Allen who is Chairman of the Department of Physics, State University of Iowa. The panel has representation from Aberdeen Proving Grounds, University of Michigan, Evans Signal Laboratory, General Electric Company, Naval Research Laboratory, Air Force Cambridge Research Center, California Institute of Technology, and Harvard Observatory. It has no official connection with any Department of Defense organization but is informally supported by the Office of Naval Research. In connection with the forthcoming International Geophysical Year, it has been assigned the function of developing the United States program for upper atmosphere research through the use of high altitude rockets.

3. At the 8 September meeting, there were in addition to the panel itself, representatives from the Chief of Ordnance, United States Army, the Redstone Arsenal, The Rand Corporation, the Office of Naval Research, Aerophysics Development Corporation, Air Force ARDC, NACA, National Science Foundation, etc.

4. Dr. Van Allen opened the discussion of the first agenda item - Higher Altitude and Satellite Vehicles - by a discussion of past upper atmosphere research with rockets. He cited the extensive use of WAC which could carry 2,500 pounds payload to a 100 miles altitude but the supply of which has now been exhausted. He mentioned the Aerobee which was not used as a single stage vehicle, primarily because it could carry only 25 pounds to an altitude of 150 miles. The Aerobee was however, used as a second stage in combination with the V-2 and achieved an altitude of 250 miles. Since cessation of the V-2 supply, two other rockets have been developed and used as civilian research instruments. These are the Viking which in its present version can carry 500 pounds payload to 135 miles

314-2

1954

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altitude and in its forthcoming modification will carry 500 pounds to 195 miles altitude. The second rocket is the Aerobee which can carry 150 pounds payload to 65 miles altitude. In addition to these two, there is also the [illegible] which is a system of launching a Beacon rocket from a "[illegible]" balloon. The launch is made at a balloon altitude of approximately 100,000 feet and the rocket carries 30 pounds of instrumentation to an altitude of 60 miles. Dr. Van Allen concluded his presentation by stating that, from here on, civilian upper atmosphere rocket research will probably be dependent, due to lack of civilian funds, upon the military rockets being developed now by the Department of Defense. He then introduced Dr. Fred Whipple of the Harvard Observatory for a discussion of Earth Satellite Vehicle (ESV).

5. Dr. Whipple stated that the interests of civilian research and of the Department of Defense in ESV are synonymous. He pointed out the main scientific gains which could be made through the ESV which have application both to civilian science and to defense. These include meteorology, astronomy, solar-terrestrial relations, far ultra-violet and X-ray research, etc. He described the ESV sequence as being in three phases as follows:

(1) The placing in orbit of an observable object (uninstrumented) which could be seen either optically or by radar.

(2) The placing in orbit of an instrumented vehicle, "an unmanned physical laboratory". This phase will be a progressive development starting with a very small vehicle similar to the Singer [illegible], which will carry telemetering equipment. Larger capacity will be achieved as bigger and more reliable power plants are developed. These latter will probably be nuclear or solar energy plants. Instrumentation starting with simple telemetering will progress through more complicated stages until television and finally a telescope is included. The last stage in this phase will be a remote controlled vehicle.

(3) The final phase of ESV will be the putting in orbit of a manned satellite vehicle.

6. Dr. Whipple emphasized that the placing of a slug in orbit was in [illegible] the first step in the process. He stated that such a vehicle even without instrumentation could produce useful scientific results such as air density data and relative positions on the earth. The main problem in connection with a slug (phase 1) is that of observation from the earth, which will require much study. This problem will be simplified if the ESV is on either an equatorial or a polar orbit. In regard to

[redacted]

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the unmanned instrumented vehicle (Phase 2), he said that the main problems will be development of small reliable power plants; television, the technical design of which is already well along; orientation of the vehicle itself and of the instrumentation carried; and constant reduction of weight of the equipment to be carried. He stated that the altitude at which the vehicle should orbit will depend upon the purpose envisaged. Theoretically, an altitude of 1,[illegible] miles at a speed of 5 miles per second would be ideal. This would provide a 2-hour orbit.

7. Lt. Cdr. George Hoover of the Air Branch, ONR, made the next presentation, concerning high altitude vehicle projects with which ONR is concerned. ONR has three main projects in this field, the first of which is the development of a manned conventional aircraft to operate at a maximum altitude of 300 miles. Two designs are presently under consideration - the Douglas 553 and the Douglas 55[illegible]. The former is designed to have an altitude of 700,000 feet. (Note: this field of study is covered in Report N-[illegible]-1[illegible]), "High Altitude and High Speed Study" by Douglas Aircraft Corporation. - [illegible]). The second ONR project is development of a manned high altitude balloon to operate at 100 to 2[illegible],000 feet. The system would be based on the "Skybook" polyethylene balloon carrying a gondola equipped to sustain one or two men. The third ONR project is for manned space flight and the study of this is being conducted at the Aero Jet Laboratory. The first phase of this latter project is called [illegible], the purpose of which is to place an [illegible] in orbit at an altitude of 200 miles in order to secure meteorological and atmospheric data at that level as the first step toward higher altitude work. Project [illegible] has been tentatively approved by the Navy and ONR is going ahead with it in conjunction with the Army. It is now also being coordinated with the Air Force at a very high level. The project calls for the use of the Army Redstone missile (see para. 8 below) as the first stage with the Loki cluster (see para. 9 below) providing the second and third stages. Under Aero Jet leadership, four subsidiary studies are planned to be undertaken as follows:

(1) A Visibility Study to determine the size and weight of the vehicle required at an altitude of 200 miles. It is hoped that Dr. Fred Whipple will be the leader of this.

(2) An Orbital Study to determine the power required, the guidance system, etc. It is hoped that Dr. S. Fred Singer of the University of Maryland will lead this.

(3) A Inner-trajectory Study to determine the final design and the staging requirements.

[redacted]

[redacted]

(4) A launching study to determine where and how the vehicle should be launched, the logistics requirements, and the range risks involved.

Following the completion of these four studies, construction of the actual vehicle will be commenced. [illegible] considers that successful completion of Project [illegible] will lead into the launching of a vehicle similar to the [illegible], i.e., an instrumented vehicle using a polar orbit at an altitude of 200 miles. It is expected that [illegible] would remain aloft for ten days while [illegible] could probably maintain its orbit for about one month. [illegible] Dr. [illegible] emphasized that if adequate backing is available for Project [illegible], [illegible] might well be used during the International Geophysical Year. He laid great stress on the necessity for the United States being the first in launching an [illegible] and said that Project [illegible] was absolutely essential to achieve this end.

8. Dr. [illegible] of Redstone Arsenal then gave a briefing on the Redstone [illegible]. [illegible] Model [illegible]-A-14, as a tactical weapon, has a range of 1[illegible]0 miles with a trajectory apex of 4[illegible] miles. If used as a research tool, it has a vertical range of 1[illegible]0 miles with a [illegible] of about [illegible] pounds. The modified A-14 which is now under development will have a vertical range of 270 miles with an instrument weight allowance of [illegible] pounds. Redstone Arsenal is now tooling up for production of these missiles as research instruments. [illegible] will cost 70,000 to [illegible],000 per missile if more than five per month are produced. They have a speed of approximately [illegible].

9. Dr. [illegible] of Aerophysics Development Corporation described [illegible] vehicle [illegible] are developing as an Air Force project. The vehicle comprises two clusters of Aki rockets; the first cluster of seven acting as the first stage booster; the second cluster of four constituting the second stage. It has a speed of Mach 10 and a payload of 10 pounds. Air-launched vertically from an altitude of [illegible],000 feet, it is designed to achieve an altitude of [illegible] miles. It is planned to use either a flashing [illegible] system or a folding radar reflector for tracking purposes. [illegible]-launched, it is expected to get an altitude of 2[illegible]0 miles. [illegible] Mark I rockets, the second stage develops [illegible] [illegible]. The missile has yet to be flown vertically as a research instrument. Dr. [illegible] indicated that the second stage cluster could be adapted to carry 12 pounds of ruggedized telemetering equipment.

10. Dr. [illegible] of [illegible] commented briefly on a design which they are [illegible] consists of the Aki booster as the first stage and a [illegible] rocket as the second stage. It is estimated that this vehicle could attain an altitude of [illegible],000 feet. It would be very low cost, in the range of [illegible]7,000 to [illegible],000.

[redacted]

[redacted]

11. Dr. [illegible] of the National Science Foundation gave a brief account of [illegible] for upper atmosphere rocket research. One million, three-hundred thousand dollars is presently available and about 7[illegible] of this will be transferred immediately to [illegible] for procurement and accounting purposes. The balance of the rocket project funds - [illegible]400,000 - will become available next year.

12. Following adjournment of the panel meeting, I spent a couple of hours with Dr. Van Allen, who had served under me for a time during World War II. Van Allen was one of the key figures in the development of the [illegible] fuse under Admiral Parsons and was one of the officers assigned to introduce the fuse to the Pacific Fleet. In our conversation, I mentioned the difficulty that apparently would be encountered in the [illegible] program, of designing scientific equipment which would stand the high G's encountered in most high altitude rockets, particularly with solid propellant. I mentioned specifically the [illegible] G's developed in stage two of the Poki cluster vehicle. Dr. Van Allen said that there should be no such difficulty. He pointed out that the [illegible] fuse contained five miniature radio tubes, a battery and a transmitter, and that this instrument, with practically no failures, withstood 20,000 G's when fired from the [illegible] dual-purpose gun. He pointed out also that in the [illegible] which has been in use for some time, the [illegible] carried [illegible] pounds of instrumentation for cosmic ray research [illegible] withstands 60 G's. He said that he saw no difficulty whatsoever in designing instrumentation for high altitude rockets which would easily withstand 1,[illegible] G's. In regard to the [illegible] program generally, he agreed thoroughly with Lt. Cdr. [illegible], that the immediate first step was to launch a slug. He felt that if top level government priority could be established, with guidance and control by an outside high level scientific group, it would almost certainly be possible to put a slug in orbit by the time of the [illegible] and possibly even put up an instrumented vehicle.

P. G. Strong

P. G. STRONG

GSI:[illegible]:A1

Distribution:
Orig 1 - [illegible] Collection
1 - Dr. [illegible]
1 - [illegible]
1 - [illegible]
1 - [illegible]

[redacted]

Copied From Nearly Illegible Original

(50)

[redacted]

JUL 12 1955

Acting Assistant Director for
Scientific Intelligence

Chief, Physics & Electronics Division, SI

Unusual UFOB Report

1. The attached copy of a cable is a preliminary report from Pepperrell Air Force Base, Newfoundland reporting on what appears to be an unusual "unidentified flying object" sighting.

2. Essentially, the "object" was apparently simultaneously observed by a tanker aircraft (KC 97) pilot (visually) and by a ground radar (type unknown) site (electronically). While such dual (visual and electronic) sightings of UFOBs are reported from time to time, this particular report is somewhat unique in that:

a. the "pilot of Archie 29 maintained visual contacts with object calling direction changes of object to (radar) site by radio. Direction changes correlated exactly with those painted on scope by controller."

b. In previous cases the dual (visual and electronic) sightings are mostly of a few minutes duration at most. This one was observed by radar, at least, for 49 minutes.

3. It is reasonable to believe that more information will be available on this when complete report (AF Form 112) is issued.

TODOS M. ODAREMKO (5)(3)

Attachment.

cc: ASD/SI
GSD/SI
SS/SI

Chief, Physics & Electronics Division, SI

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TODOS M. ODARENKO

Attachment.

cc: ASD/SI
GSD/SI
SS/SI

[redacted]

50

(3)

(51)

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : Acting Assistant Director for Scientific Intelligence

DATE: AUG 8 1955

FROM : Chief, Physics and Electronics Division, SI

SUBJECT: Responsibility for "Unidentified Flying Objects" (UFOBs)

REFERENCES:
A. Memo to Ch/P&E from AD/SI, 27 May 53, "Unidentified Flying Objects"
B. Memo to AD/SI from Ch/P&E, 3 July 53, "Unidentified Flying Objects"
C. Memo for the Record signed by Ch/ASD, Ch/Ops, and Ch/P&E, 14 June 54, "Intelligence Responsibilities for Non-Conventional Types of Air Vehicles"

1. By reference A, this Division was assigned "responsibility for maintaining current knowledge of sightings of unidentified flying objects."

2. By reference B, which received the concurrence of your office, this Division proposed to handle its responsibilities as follows:

"a. the project will be considered as inactive
b. the incoming material will be reviewed periodically to segregate references to recognizable and explainable phenomena from those which come under the definition of 'unidentified flying objects'
c. all material on unidentified objects will be deposited in the files for future reference unless it raises an immediately recognizable problem of concern to national security."

3. Reference C clarified but did not reduce the responsibility of this Division on the subject project.

4. Since the issuance of Reference A, the responsibility delineated in par. 2b, above, has required between 10 and 25 analyst hours per month and the responsibilities under par. 2c, above, about half that much clerical time.

for Scientific Intelligence

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51

[redacted]

5. It is requested that this Division be relieved of the responsibilities assigned to it under Reference A since:

a. No intelligence of concern to national security has been developed from the project.

b. The project as defined by Reference C does not fall under the provision of DCID 4/4 on Critical National Intelligence Objectives.

c. P&E's successful participation in the FY-1956 OSI Production Program requires that all non-essential activities be terminated.

6. In view of the fact that no positive intelligence of significance has been produced under the subject project, it is recommended that the project be terminated and the files thereof be placed in dead storage.

Todos M. Odarenko

TODOS M. ODARENKO

[redacted]

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CLASSIFICATION [redacted]

CENTRAL INTELLIGENCE AGENCY

REPORT NO. CS-2-[illegible]

INFORMATION REPORT

[redacted]

COUNTRY USSR (Pestov Oblast)

DATE DISTR. 9 August 1955

SUBJECT Flying Objects Seen in Shakhty Area

NO OF PAGES 4

PLACE ACQUIRED [redacted]

NO. OF ENCLS. (LISTED BELOW)

DATE OF INFO August 1953

SUPPLEMENT TO REPORT NO.

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

Attached is a copy of [redacted] forwarded as received.

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DATE 6 Nov 78

PLACE ACQUIRED [redacted]

DATE OF INFO August 1953

NO. OF ENCLS. LISTED BELOW

SUPPLEMENT TO REPORT NO.

[redacted]

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SOURCE [redacted]

Attached is a copy of [redacted] forwarded as received.

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DATE 6 Nov 78

[redacted]

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D-(#47)

CLASSIFICATION [redacted]

COUNTRY USSR REPORT NO. [redacted]

TOPIC Flying Objects Observed in the Shakhty Area CS-X-67481

EVALUATION [redacted] PLACE OBTAINED [redacted]

DATE OF CONTENT August 1953

DATE OBTAINED late September 1954 DATE PREPARED 23 November 1954

REFERENCES

PAGES 2 ENCLOSURES (NO. & TYPE) 1 - one sketch on ditto

REMARKS

SOURCE [redacted]

1. On a warm, starry and moonlit evening in August 1953, three flying objects were observed moving over Ayuta PW camp which was 10 km southwest of the southern perimeter of Shakhty, about 600 meters west of the Rostov-Novoshakhtinsk highway, about 2 km southeast of the Ayuta mines and about 3.5 km east of Ayuta.[1] The first flying object was observed at about 2145, the second at about 2245, and a third one was observed by fellow PWs at about 2345. The objects moved from southeast to northwest, at a deviation of 70 to 75 degrees from the vertical line, and crossed approximately north of the camp. The fiery gleam accompanying the object disappeared over the partially lighted installations of the Ayuta mines. While moving over the camp, the course of the object deviated from the vertical line by about 70 degrees to the north. The flight altitude could not be estimated. No sound was heard while the objects were overhead.

2. The speed of the phenomena could not be compared with that of aircraft or Soviet jet fighters. The first object was observed departing toward the Ayuta mines for 3 or 4 seconds. The second body was seen for 6 or 7 seconds after passing the camp. It also disappeared in the direction of the Ayuta mines. No statements could be made about the third object. The two objects observed had a fiery gleam in a reddish color which was similar to that of planet Mars. It looked like a comet or shooting star. The approach of the phenomenon was not observed. 3

3. On the day following the evening of observation, the individual PWs differed considerably in their opinions about the phenomena. Immediately after the observations, source and sub-source believed that the objects observed were rockets, similar to V weapons. After the objects had disappeared, no detonations were heard.

[1] Field Comment. For location of Ayuta PW camp, see Annex.

CLASSIFICATION [redacted]

[redacted]

[redacted]

CS-X-67481

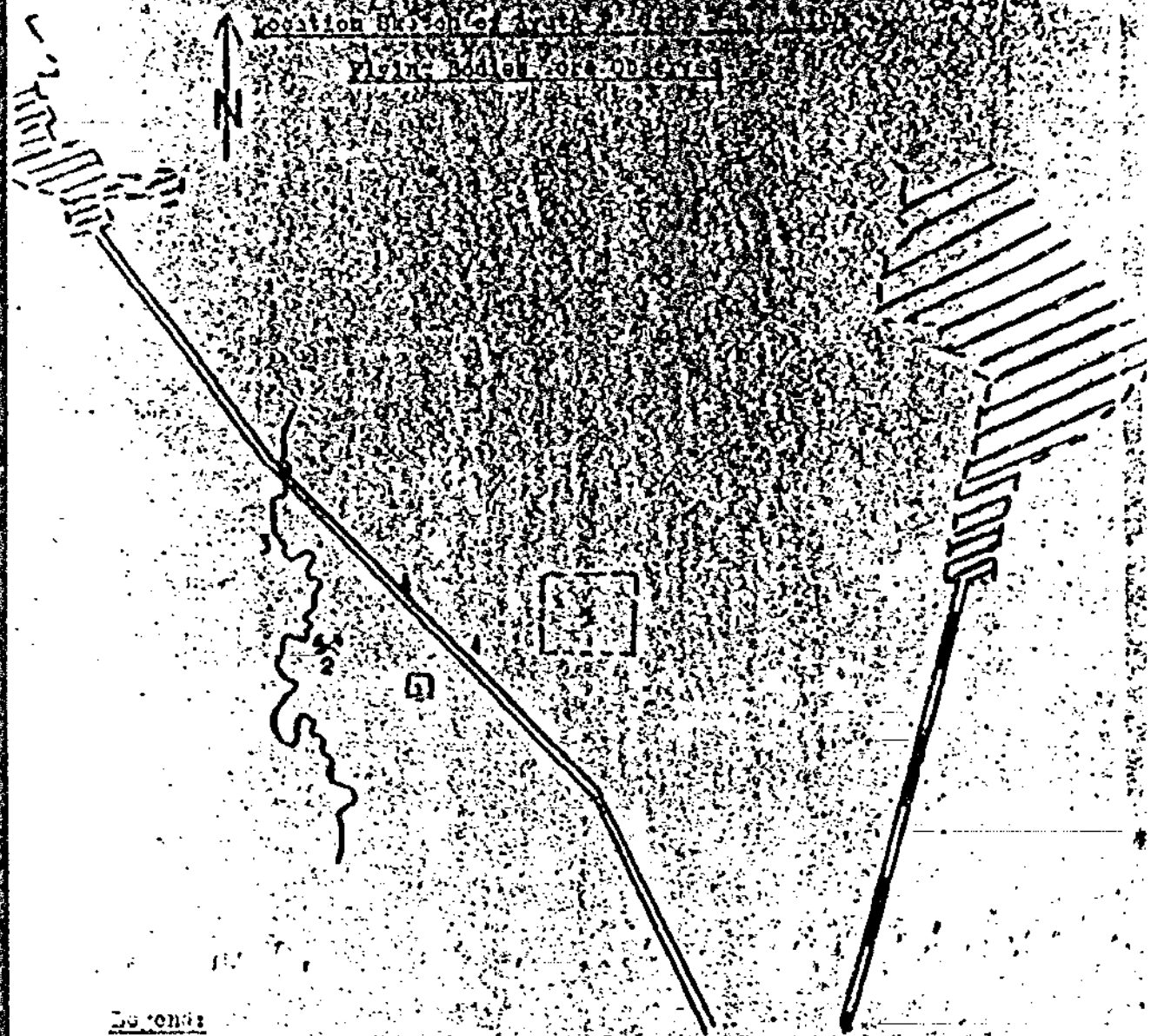
2. Field Comment. All previous reports on flying objects observed in the Shakhty area mentioned that loud noises accompanied the action. The description of the noises indicated that the body was propelled by a rocket or fitted with a pulse-jet engine. See [redacted] and [redacted]. The objects mentioned in the present report possibly flew at such a high altitude that the sound of the engines could not be heard. Another possibility is that a different phenomenon was observed, which, however, appears rather improbable.

3. Field Comment. The observation reported agrees with previous information and indicates that the body was propelled by a ramjet or a rocket engine.

[redacted]

Location Sketch of Ayuta [illegible]

Flying Bodies Were Observed



Legend:

1 2[illegible] Camp No [redacted]

2 Ayuta mines

3 Ayuta river

4 Paved 6-meter-wide highway leading from Kostov to Moscow, flanked by summer roads for horse-drawn vehicles. Construction work on the section south of Shakhty was started in October 1950. This highway section was opened for traffic in October 1951. At a temperature of over + 25 degrees the highway was blocked by military guards. The highway had been built by engineer units of the Red Army which used modern road construction machines.

[illegible] auxiliary airfield, now under cultivation.

COUNTRY

SUBJECT Flying Objects Seen in Sarawak Area

NO. OF PAGES 2

PLACE ACQUIRED [redacted]

NO. OF ENCLS.

DATE OF INFO. May to Sept

SUPPLEMENT TO REPORT NO.

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

Attached is a copy of [redacted] as received.

Headquarters Comment: The correct spelling of the place referred to is "Sarawak".

[redacted] 11/55 [redacted]

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D - #49

CLASSIFICATION

CENTRAL INTELLIGENCE AGENCY REPORT NO. CS-X-13527

INFORMATION REPORT

[redacted]

COUNTRY	USSR (Mordovskaya ASSR)	DATE DISTR.	7 November 1955
SUBJECT	Flying Objects Seen in Saransk Area	NO. OF PAGES	2
PLACE ACQUIRED	[redacted]	NO. OF ENCLS.	
DATE OF INFO.	May to September 1955	SUPPLEMENT TO REPORT NO.	

[redacted] THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

Attached is a copy of [redacted] recorded as received.

Headquarters Comment: The correct spelling of the place referred to is "Saransk".

[redacted] 11/55 [redacted]

APPROVED FOR RELEASE

DATE ....

CLASSIFICATION [redacted]

COUNTRY USSR REPORT NO. [redacted] CS-[illegible]

TOPIC Observations made in the [illegible]

EVALUATION [redacted] PLACE OBTAINED [redacted]

DATE OF CONTENT [illegible]

DATE OBTAINED [illegible] DATE PREPARED [illegible]

REFERENCES

PAGES 1 ENCLOSURES OR ATTACHMENTS

REMARKS

SOURCE [redacted]

On three evenings between 2100 and 2300 in July and August 1954, it was observed from PW Camp [redacted] in Potteer, 30 km west Saranks, USSR, that a white drop-shaped gleam that was weaker than a white flare but brighter than a shining shooting star moved straight from east to west north of the camp and apparently retaining the same altitude. The sky was 2/10 overcast. Other PWs made the same observation on other days at the same hour. The flying object itself could not be seen but only the gleam whose luminous intensity did not change. No trail was observed nor were the sounds of engines heard. The observations were made at an elevation angle of about 45 degrees and an azimuth angle of about 80 degrees, since further observations of the flight path was obstructed by trees. The gleam required about 1 second for flying through this angle of 80 degrees. When the observation was made for the first time, the PWs believed they had seen a shooting star since the phenomenon appeared and disappeared so quickly. When the phenomenon was observed several times, however, it was assumed to be a flying body.

Field Comment. The type of the flying object can not be inferred from the scanty statements. The report indicates that unidentified flying bodies were also observed in the Saransk area (54° 11' N/45° 12' E).

[redacted]

(1)

A

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT : Flying Saucers or Unconventional Aircraft

1. A dispatch from Prague, C-103, dated 13 October 1955, reported the sighting of two flying saucers or disc-like unconventional aircraft. An interview with [redacted] one of the four observers of these aircraft failed to confirm in several respects the information given in the dispatch.

2. His observations were limited to sighting two lights which initially rose vertically and then approached the train and passed over head at a high altitude. He failed to observe the body of the object and had no feeling as to whether it was round, disc-like or even square. His only reason for describing an unconventional nature to the object was that it rose vertically and appeared to glide in a manner unlike any aircraft he had previously seen. However, in view of the fact that it was dusk, that he thought the aircraft quite high (3000 feet) and that his observations were undoubtedly conditioned by [redacted] that he had seen a flying saucer, too much confidence cannot be given to his observation. The fact that no noise was heard may also have influenced his opinion on the unconventional characteristic of the object. He also failed to confirm the existence of the train official following the incident. It is my belief that [redacted] testimony alone could not confirm the existence of any unconventional aircraft. However, he was not in a position to have as good a look as were the other members of the party. A very careful interrogation of the other members is in order.

3. Two years ago, Dr. Robertson headed a group which investigated U.S. sightings of flying saucers. This group was able to explain away all the sightings and reached the conclusion that these phenomena represented no threat to the security of the U.S. Even if the present sightings

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SUBJECT: Flying Saucers or Unconventional Aircraft

[redacted] are confirmed, it should not be assumed that these unconventional aircraft have actually been flying around the U.S. and were the source of U.S. public speculation.

4. The USAF is supporting a Project "Y" at Avro Aircraft Ltd. in Canada for the development of unconventional saucer-like aircraft. However, this development is still in the early research and development stages with three or more years being required before the production of a first prototype. If the development proves out successful, the calculations indicate that such an aircraft might have a very high ceiling (up to 100,000 feet) with speeds up to 1000 miles per hour, a range of 700 miles and rate of climb of 100,000 feet a minute. A vertical take-off characteristic would, of course, be extremely valuable. Project Y is being directed by John Frost. Mr. Frost is reported to have gotten his original idea for the flying machine from a group of Germans just after World War II. The Soviets may also have obtained information from this German group. (It is suggested that you ask General Sanford to report on the progress of the Air Force project at the IAC meeting.)

[illegible]

[illegible] SCOVILLE, JR.
Assistant Director
Scientific Intelligence

cc: DD/I

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[illegible]

[redacted]

[redacted]

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18

19 October 1955

MEMORANDUM FOR INFORMATION

SUBJECT: Reported Sighting of Unconventional Aircraft

1. The objects reportedly sighted b[redacted] are described to be similar to Project "Y" which is in the research stage at Avro Aircraft Ltd., Canada, under contract to the US Air Force.

2. Several design studies have been made on Project "Y". The present study calls for a circular wing 30 ft. in diameter and about 1.1 ft. thick. Its performance is to be as follows:

Speed M	=	3
Rate of climb	=	120,000 ft. min.
Ceiling	=	102,000 ft.
Range	=	700 n.m.

3. The present effort consists of wind tunnel testing sponsored to the extent of $300,000 by the US Air Force.

4. Project "Y" is being directed by John Frost. Mr. Frost is reported to have obtained his original idea for the flying machine from a group of Germans just after World War II. The Soviets may also have obtained information from this German group.

5. Since two objects were reportedly seen in operation at one time in an area where it is most unlikely that experimental flying would be conducted, it is likely that these objects were in service. This would indicate very rapid progress in this development for the Soviets. It does, however, seem inconsistent that the Soviets, if they have such an object in service, would continue their large development and production programs on conventional type aircraft.

6. Since our first information on Project "Y" in early 1953, ASD has been on the alert for information which might indicate that the Soviets were working on such a project. Prior to the sighting by [redacted] no such information has been available.

[redacted]

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[redacted]

206

3. In order to properly evaluate the report by [redacted] and group, it will be necessary to have additional information and details of the sighting. The Air Force has made arrangements for technically competent persons to question the party.

Release

W. E. LEXOW
Chief, Applied Science Division, SI

SI/ASD:EBowers:mf

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CLASSIFICATION [redacted] 55

CENTRAL INTELLIGENCE AGENCY REPORT NO. CS-X-[illegible]

INFORMATION REPORT CD NO.

55

[illegible]	USSR (Rostov[illegible])	DATE DISTR.	7 November 1[illegible]
SUBJECT	Flying Object Observed at [illegible]	NO. OF PAGES	2
PLACE ACQUIRED	[redacted]	NO. OF ENCLS.	
		[illegible]	CS-X-57[illegible]
DATE OF INFO.	September [illegible]	SUPPLEMENT TO REPORT NO.	

[redacted] THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

Attached is a copy of [redacted] forwarded as received.

INFORMATION REPORT

CD NO.

55

[illegible]	USSR (Rostov[illegible])	DATE DISTR.	7 November 1957
SUBJECT	Flying Object Observed [illegible]	NO. OF PAGES	2
PLACE ACQUIRED	[redacted]	NO. OF ENCLS.	
		[illegible]	CS-X-57461
DATE OF INFO.	September [illegible]	SUPPLEMENT TO REPORT NO.	

[redacted] THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

Attached is a copy of [redacted] forwarded as received.

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DATE 6 Nov 78

D- #48

CLASSIFICATION [redacted]

COUNTRY [illegible] -2- REPORT NO. [redacted] CS-X-11025

TOPIC Fiery Gleam Observed in the Rostov Air Space

EVALUATION [redacted] PLACE OBTAINED [redacted]

DATE OF CONTENT September 1953

DATE OBTAINED 19 July 1955 DATE PREPARED 17 August 1955

REFERENCES

PAGES 1 ENCLOSURES (NO. & TYPE)

REMARKS

SOURCE [redacted]

At about 2000 on 12 or 13 September 1953, it was observed from PW Camp [redacted] in Rostov that a fiery gleam moved from north-northeast to south-southwest 5 km west of the camp at a constant altitude of 1,000 to 1,500 meters and a constant speed. The weather was clear and cloudless. The gleam of fire was yellowish red in front and became dark red to the rear, but its shape did not change to the rear. No smoke trail was observed nor were sounds heard. The gleam was observed for about 3 seconds during which it covered a distance of about 1,250 meters. This was not confused with an aircraft because no air activity was conducted during the period of observation.

Field Comment. The information confirms previous observations of unidentified flying objects in the Shakhty/Rostov area.

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[redacted] [redacted]

[redacted]

MEMORANDUM FOR THE RECORD

SUBJECT: Interview with [redacted]

The following is a report of an interview [redacted]

"He was riding on the train [redacted] with 3 others [redacted] had a cold, was feeling tired, and lay down in one of the two compartments. The others were in the second compartment. [redacted] had the lights out. He noticed what appeared to be a yellow spot on the window. Looking closer he saw it was outside and seemed to be a greenish yellow ball which was ascending rapidly. After it disappeared, he went in to tell the others. While he was discussing it with them, a second object appeared and they all watched it. When the second object was first sighted, the compartment lights were on, but were then switched off. It was after dark and [redacted] was unable to see any outline or details of either object other than the greenish yellow light which appeared to be round. He could see no rocket trail nor smoke. He had the uncertain impression that the object was gently whirling or 'tumbling upward'. The trajectory was upward at a steep angle (not vertical) which he described as the way a Fourth of July rocket goes off a highly inclined track. In both cases, the objects were first seen at a distance which he estimated was 600 to 800 feet above the earth. However, he emphasized he had no good way of telling how far away the objects were. The objects kept on going up without a break in their course. They did not level off. He seemed uncertain as to how they finally disappeared. At no time did he hear any noise above the train noise.

There was a searchlight visible such as we used in World War II to spot planes. It was turned on but was not pointed at the objects and did not attempt to follow them. In the discussion with the others afterward they claimed to have seen lights on the objects and to have been able to make out some details. [redacted] remarked that their eyes were better than his for he could see only the round yellow light. The others said the objects went over the train.

[redacted]
Copy 1 of 18

The following is a report of an interview [redacted]

"He was riding on the train [redacted] with 3 others [redacted] had a cold, was feeling tired, and lay down in one of the two compartments. The others were in the second compartment. [redacted] had the lights out. He noticed what appeared to be a yellow spot on the window. Looking closer he saw it was outside and seemed to be a greenish yellow ball which was ascending rapidly. After it disappeared, he went in to tell the others. While he was discussing it with them, a second object appeared and they all watched it. When the second object was first sighted, the compartment lights were on, but were then switched off. It was after dark and [redacted] was unable to see any outline or details of either object other than the greenish yellow light which appeared to be round. He could see no rocket trail nor smoke. He had the uncertain impression that the object was gently whirling or 'tumbling upward'. The trajectory was upward at a steep angle (not vertical) which he described as the way a Fourth of July rocket goes off a highly inclined track. In both cases, the objects were first seen at a distance which he estimated was 600 to 800 feet above the earth. However, he emphasized he had no good way of telling how far away the objects were. The objects kept on going up without a break in their course. They did not level off. He seemed uncertain as to how they finally disappeared. At no time did he hear any noise above the train noise.

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[redacted]

[redacted]
Copy 1 of 18

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SUBJECT: Intervi[redacted]

[redacted] stated that after he was back in his compartment, lying down, the porter pulled down the shades. This was at least 10 minutes later and was not unusual. [redacted] stated that he preferred to ride the train, taking it whenever possible. There was nothing unusual about him using the train on this trip. He did not feel [redacted] were trying to conceal anything from him in this region. He did not see anything to indicate the presence of a big airforce base in this region. Elsewhere, he passed several airbases and no attempt was made to conceal them from him.

[redacted] as never seen a jet airplane take off at night. If these objects were jet airplanes, they climbed surprisingly rapidly.

HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

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2 - AD/SI
2 - ASD/SI
7 - IAC members (1 cy each)

[redacted]
Copy 1 of 10

(144)

MEMORANDUM FOR THE RECORD

SUBJECT: Interview with [redacted]

1. On 27 October, [redacted] and I interviewed [redacted] relative to an observation of unconventional or saucer-like aircraft during his visit [redacted]. The following is a statement of his observations with my comments. [redacted] will submit separately his views on [redacted] statements but I believe he is in general agreement with the views stated herein.

2. The party was travelling between [redacted] on a train at the specific request of [redacted] who made every attempt to journey by train when possible. (This tends to refute the theory that the train trip was arranged in order to stage the operation [redacted]) About an hour and one-half out of [redacted] the subject, who was not feeling well, was resting in his compartment with the lights turned out while the remainder of the party was in the next compartment with the lights on. He suddenly noticed a greenish-yellow ball rising rapidly. He rushed into the next compartment stating that he had seen what he thought was a flying saucer. They turned out the lights and looked out the window but [redacted] saw nothing and the rest of the party was initially skeptical. However, suddenly a second ball was noticed rising rapidly and then the other members of the party were convinced. The second object was initially seen at a minimum altitude of 700 to 800 feet, and while the first object was initially viewed at an even higher altitude. Nothing was seen on the ground with the exception of a search light which was about one-half to one miles away and appeared to be aimed at a very low trajectory almost at the train. The subject did not on either occasion see the form of the object, only this fiery ball. No firm estimate could be made of the size or distance of the ball because there were no reference objects. However, the subject had the impression that the object could have been as small as a rocket although no trail was left by the rising ball. The object gave the impression of whirling and appeared to follow a single trajectory with no break in its flight pattern. The subject did not see any lights, only the yellowish glow (this is contrary to statements of other observers). The search light did not appear to be following the object. About [redacted] the sightings and after the subject had

MEMORANDUM FOR THE RECORD

SUBJECT: Interview with [redacted]

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[redacted]

Copy 1 of 10

SUBJECT: Interview with [redacted]

the shades. No unusual attitude on the part of the guard was noted but it was dark. (This is in direct contradiction with the original dispatch and the statement [redacted] was not present when the dispatch was prepared and sent from Prague, and as a consequence did not have a chance to verify the contents.

b

4. The testimony [redacted] does not in my opinion support the theory [redacted] developed saucer-like or unconventional aircraft. It is quite possible that the objects seen were the exhausts of normal jet aircraft in a steep climb. The fact that none were seen on the ground night indicate that the aircraft were in a dive followed by a sharp pull-up in such a way that nothing was seen until the exhausts were visible to the observers on the train. However, it is possible that the aircraft were indeed of the short or almost vertical take-off variety.

b3

HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

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Orig & 1 - DCI
1 - DD/I

[redacted]
Copy 1 of 10

27 OCT 55

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT : Interview with [redacted]

After interviews with three of the four observers involved in the "Flying Saucer" event, there still appears nothing to confirm the existence of these or other particularly unconventional type aircraft. It appears more likely that the aircraft observed were normal jets or at the very best aircraft with high rate of climb. Since [redacted] seems to have been the prime mover in sending the original dispatch and ascribing so much confidence to the observation of these saucers, it is imperative that he be interviewed alone. Furthermore, he should be able to provide some expert testimony relative to the [redacted] complexes which has not been mentioned in any previous correspondence relative to this trip. It is my understanding that G-2 is holding back on interviews with [redacted] ostensibly in order to wait for a joint interview with [redacted] I would recommend that we try and avoid this procedure.

HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

Enclosure:
[redacted] Copies 1 and 2

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT : Interview with [redacted]

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Herbert Scoville, Jr.

HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

Enclosure:
[redacted] Copies 1 and 2

[redacted]
Copy 1 of 8

208

[redacted]

6 April 1955

MEMORANDUM FOR: Chief, Contact Division, CO

ATTENTION : Scientific Branch

THROUGH : Chief, Support Staff, ST

FROM : Chief, Physics and Electronics Division, ST

SUBJECT : Radio Recording

1. Reference your memorandum of 17 March 1955, in regard to Case [redacted] the tape recording enclosed therewith has been analyzed and positively identified as a known signal of U.S. origin.

2. Your prompt cooperation in securing the recording is appreciated.

TODOS M. ODARENKO

cc: Chief, SS/ST

[redacted]

6 April 1955

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ATTENTION : Scientific Branch

THROUGH : Chief, Support Staff, SI

FROM : Chief, Physics and Electronics Division, SI

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cc: Chief, SS/SI

[redacted]

205

INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS CD NO. --

COUNTRY	Non-Orbit	DATE OF INFORMATION	1954
SUBJECT	Military - Unidentified flying objects		
HOW PUBLISHED	Daily newspapers	DATE DIST.	25 Oct 1954
WHERE PUBLISHED	As indicated	NO. OF PAGES	3
DATE PUBLISHED	5 Jul-2 Sep 1954	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Various		

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE As indicated

SIGHTINGS OF UNIDENTIFIED FLYING OBJECTS

UNIDENTIFIED FLYING OBJECT SIGHTED OVER NORWAY -- Oslo, Verdens Gang

During exercises by an antiaircraft battery at Stavern, an unidentified flying object appeared in the sky directly in the line of fire and was observed through powerful binoculars by 50 officers and men. The object was located at a considerable distance and at an angle of 30-40 degrees to the horizontal; it was round or slightly elliptical in shape, flat on the underside, and silvery on the upper side. It moved up and down slowly for 7 minutes and then moved away at a speed estimated at several times the speed of sound.

"FLYING SAUCERS" SIGHTED OVER WEST BERLIN -- Casablanca, La Vigie Marocaine, 5 Jul 54

Since May 1954, mysterious objects, described as "flying saucers," have been observed [daily?] between 2200 and 2300 hours by various persons living in West Berlin.

"FLYING SAUCERS" OVER WEST GERMANY -- Hamburg, Hamburger Abendblatt, 7 Aug 54

Several inhabitants, the crew of the local weather station, and a police officer on night duty at headquarters observed three "flying saucers" over the city of Darmstadt. They appeared at around 2200 hours [presumably on 6 August], were of a fiery yellowish-red color, and seemed alternately to stand still and dart back and forth soundlessly. They were observed for about 1 1/2 hours.

APPROVED FOR RELEASE
DATE 6 Nov 79

WHERE PUBLISHED As indicated

NO. OF PAGES 3

DATE PUBLISHED 5 Jul-2 Sep 1954

SUPPLEMENT TO REPORT NO.

LANGUAGE Various

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE As indicated

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DATE [illegible]

[redacted]

CLASSIFICATION [redacted]

STATE	NAVY	NSRB	DISTRIBUTION						
ARMY	AIR	FBI							

D #20

Several people also report having seen two "flying saucers" over Schleswig between 2200 and 2315 hours. They were described as faint, fiery red points of light, which finally approached close enough to be made out as disks. Greenish-white rays are reported to have been emanated from the center of the disks.

"FLYING SAUCERS" OVER SOUTHERN GERMANY -- New York, N.Y, Staats-Zeitung und Herold, 25 Aug 54

Two "flying saucers" were seen over the city of Rastatt several days ago, shortly after 2200 hours, by at least 2 dozen witnesses. The saucers passed over the city from West to East within a few seconds. The two disk-like objects were lighted like white neon lamps and made no noise. The radar sets at the nearby airfield of Soellingen, where Royal Canadian Air Force jet fighters are based, failed to pick them up, because of their high altitude. There have been several cases of sightings of "flying saucers" over Southern Germany recently.

"FLYING SAUCERS" OVER SWITZERLAND -- N.Y, Staats-Zeitung und Herold, 29 Aug 54

According to the DPA (Deutsche Presse Agentur, German Press Agency), a number of Swiss, including members of the Swiss Air Force, have reported "flying saucers" to the authorities during the past few days. Five objects, flying in formation, were reported over the area between Lake Constance and the Saentis Mountain range. [The 19 August 1954 issue of the Casablanca newspaper La Vigie Marocaine reported that five saucers were observed over Lake Constance on 13 August.]

At Chur, a similar phenomenon was observed on three successive evenings, when bright objects were seen flying at an altitude of about 3,000 meters.

SEES "FLYING SAUCER" IN CENTRAL FRANCE -- Paris, L'Aurore, 19 Aug 54

Claude Coche, an industrial designer residing in the town of Vincennes, declared that in the afternoon of 17 August 1954, he had seen a "flying saucer" in the sky over Montluçon, Allier Department. He described what he saw as a luminous, brilliant white, disk-like object. The phenomenon was visible for several seconds before it was hidden by a cloud.

REPORT "FLYING CIGAR" AND "SAUCERS" IN NORTHERN FRANCE -- Paris, Le Figaro, 27 Aug 54

A 25-year-old man of Vernon, Eure Department, reported that during the night of 22 August 1954, he had seen, motionless in the sky, a large, luminous, cigar-shaped object, from which a flying saucer detached itself, assumed a vertical position, descended a short distance, leveled off, and silently disappeared at great speed. He stated that this silent appearance and flight was repeated in turn by four other saucers. The fifth saucer descended farther than the others and was clearly red in the center and black along the edge. [By the time the last flight was completed,] the "cigar" had long since "volatilized" [sic]. The entire phenomenon lasted about 45 minutes.

Two constables of Vernon also reported having seen an elongated, luminous flying object during that night.

UNIDENTIFIED OBJECT OVER LYON -- Dakar, Paris-Dakar, 2 Sep 54

At 2015 hours on 31 August 1954, Henri Tardy is reported to have seen a flying object in the shape of a short, fat cigar flying from east to west over Lyon. The object was bluish-green in color and emitted sparks from its tail. It disappeared in a few seconds toward the radio beacon on Mount Verdun.

UNIDENTIFIED FLYING OBJECT OVER FRENCH EQUATORIAL AFRICA -- Lisbon, Diario da Manha, 21 Jul 54

Brazzaville, 19 July (AEI) -- Monsignor Verbille, Apostolic Vicar of Fort Rousset, reported in the Brazzaville newspaper La Semaine de l'AEF that he and others had sighted an unidentified flying object over Laketi in the Likuala-Mossaka region of the Middle Congo on 18 June 1954 at 1935 hours. A luminous globe, it came from the North toward the Laketi Mission. It suddenly stopped, rose and dropped, stopped again, gyrated, and seemed to shake. A noise like that of an airplane engine, heard until that moment, also stopped. Seen through binoculars, the object had a dark mass in the center with light rays of unequal length coming out of it alternately. It went through its rising, falling, and stabilizing movements for 15 minutes, then shot back over the northern horizon.

UNIDENTIFIED OBJECTS OVER SOUTHERN RHODESIA -- Leopoldville, Le Courrier d'Afrique, 25 Jul 54

J. H. Flanagan (a policeman) and some friends recently observed six unidentified objects in the sky over Enkeldoorn, south of Salisbury. The objects, which were almost immobile, were visible for about 20 minutes but disappeared when night fell.

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LIBRARY SUBJECT & AREA CODES

[redacted] 10/54

[redacted]

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INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

CD NO. --

COUNTRY	Non-Orbit	DATE OF INFORMATION	1954
SUBJECT	Military - Unidentified flying objects	DATE DIST.	29 Oct 1954
HOW PUBLISHED	Daily newspapers		
WHERE PUBLISHED	As indicated	NO. OF PAGES	5
DATE PUBLISHED	31 Jul-20 Sep 1954	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Various		

[redacted] THIS IS UNEVALUATED INFORMATION

SOURCE As indicated

SIGHTINGS OF UNIDENTIFIED FLYING OBJECTS, 31 JULY-20 SEPTEMBER 1954

WESTERN EUROPE

Austria

"FLYING SAUCER" SIGHTED OVER BREGENZ -- Vienna, Neue Wiener Tageszeitung, 21 Aug 54

Bregenz, 20 August -- Three inhabitants of Hard, on the Lake of Constance, observed a "flying saucer" at about 2045 hours on 19 August. A carpenter named Fessler, his son-in-law, and Kloser, a teacher, described it as follows: a small gleaming disk-shaped object, about twice as large as Venus, came from the southwest, flying in the direction of Pfaender. Suddenly it turned and went in the opposite direction, making some abrupt zigzags over Bregenz. After about 2 minutes, it disappeared into a bank of clouds.

Finland

"FLYING SAUCER" OVER HELSINKI -- Paris, Franc-Tireur, 15 Sep 54

Several people report having seen a circular flying object over Helsink. on the night of 14 September. The object, flying at an altitude of 300 meters, gave off an intense light and left a trail of reddish smoke about three times its diameter. It was visible for about 7 seconds.

APPROVED FOR RELEASE
DATE 6 Nov 79

[redacted]

WHERE PUBLISHED	As indicated	NO. OF PAGES	5
DATE PUBLISHED	31 Jul-20 Sep 1954	SUPPLEMENT TO REPORT NO.	
LANGUAGE	Various		

[redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE As indicated

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Bregenz, 20 August -- Three inhabitants of Hard, on the Lake of Constance, observed a "flying saucer" at about 2045 hours on 19 August. A carpenter named Fessler, his son-in-law, and Kloser, a teacher, described it as follows: a small gleaming disk-shaped object, about twice as large as Venus, came from the south-west, flying in the direction of Pfaender. Suddenly it turned and went in the opposite direction, making some abrupt zigzags over Bregenz. After about 2 minutes, it disappeared into a bank of clouds.

Finland

"FLYING SAUCER" OVER HELSINKI -- Paris, Franc-Tireur, 15 Sep 54

Several people report having seen a circular flying object over Helsink. on the night of 14 September. The object, flying at an altitude of 900 meters, gave off an intense light and left a trail of reddish smoke about three times its diameter. It was visible for about [illegible] seconds.

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DATE 6 Nov 78

[redacted]

CLASSIFICATION [redacted]

STATE	NAVY	NSRB	DISTRIBUTION					
ARMY	AIR	FBI						

D #21

France

MANY PERSONS SEE UNUSUAL OBJECT OVER PARIS -- Paris, Le Parisien Libere, 3 Sep 54

Jolivet, a resident of Paris, reported that on 30 August, he had seen a luminous, circular object flying over the city. After his report appeared in the press, many other persons [source gives names and addresses] reported that they had witnessed the phenomenon on the same day. Some of the reports indicate that the object was headed south-southwest, while other reports indicate a northeast direction; but, according to Claire Cordier and Andre Greffier, two natives of Angers, the object disappeared toward the north. [Claire Cordier reported a "disk" flying over her home town as well; see below.]

"FLYING DISK" SIGHTED IN WESTERN FRANCE -- Algiers, Alger Republicain, 4 Sep 54

A disk-shaped object was [no date given] observed by various persons simultaneously, at about 2020 hours, flying over Angers and Lion-d'Angers, both in Maine-et-Loire Department, and over Chateau Gontier, Mayenne Department. The object was generally described as being brown and emitting a smoke trail of an odd hue of green. According to Claire Cordier, a nurse in Angers, the object gave off a soft drone, and its glow was reminiscent of the light in neon tubes. The phenomenon was visible for several minutes.

UNIDENTIFIED OBJECTS SEEN IN SOMME DEPARTMENT -- Dakar, Paris-Dakar, 10 Sep 54

A 2[illegible]-year-old mason and his assistant report that recently [on [illegible] September; see below] they saw a gray object resembling a truncated millstone with a large inverted plate lying on it in a field about 200 meters from the road where they were bicycling, near Acheux-en-Amienois, Somme Department. The object oscillated slowly and seemed to have a closed door on its side. When the men had run about 50 meters toward it, the object began to fly away. Smoke was then visible from a sort of exhaust pipe on the underside. After an oblique flight of about 15 meters, the object rose vertically and disappeared. Police later found no traces of the object.

Paris, Le Parisien Libere, 14 Sep 54

Emile Renard, a mason, and Yves de Guillermes, his assistant, saw what they considered to be a "flying-saucer" at 0.15 hours on [illegible] September. Both men are known to be very reliable. They stated that the object apparently never touched ground, but hovered above the ground like a helicopter. It was about 10 meters in diameter and [illegible] meters in height, did not glow, and departed noiselessly, trailing smoke as it took off. They saw the object for at least 3 minutes.

[Source contains three crude sketches of the object drawn by these men.]

"FLYING DISK" SIGHTED IN AISNE DEPARTMENT -- Paris, Le Parisien Libere, 14 Sep 54

At about 0030 hours on [illegible] September, Robert Chovel and his wife and father-in-law were driving home from the theater in Hirson, Aisne Department, when they saw a luminous, red-orange "disk" flying above the railroad track. The "disk" stopped suddenly across the road, 300-400 meters from the ground. It

seemed to have on its upper side a small luminous tail forming an integral part of the object.

When the travelers reached the bridge at Buire, they saw what they believed to be a "flying saucer" increasing its altitude; as soon as the car lights beamed on it, the object started flying at great speed toward La Herie, 3-4 kilometers away, and disappeared.

UNUSUAL OBJECTS SIGHTED OVER NORMANDY -- Paris, Franc-Tireur, 16 Sep 54

At 0800 hours on 15 September, according to the report of Leclere, a newspaper agent in Carpiquet, Calvados Department, a white point of light appeared in the sky and grew rapidly in size. It was oval-shaped and had unusual brilliance. The phenomenon lasted 2 minutes. The witness stated that he was not subject to hallucinations.

A similar phenomenon was reportedly seen by a farmer in Thaon, also in Calvados Department.

BELIEVE "FLYING SAUCER" PILOTS WERE SMUGGLERS -- Paris, Franc-Tireur, 16 Sep 54

[The following is additional information on reports of two cases cited in the FBIS roundup of 14 September 1954.]

Two of the alleged recent landings [on 10 September] in France of "flying saucers" are considered by the local air police to have been nothing more than the landing of planes used in smuggling. Furthermore, in one case, the farmer in Corrèze Department stated that the pilot uttered unintelligible words; yet the farmer was certainly no polyglot and could easily have been fooled. In the other case, in Valenciennes Department, the witness may have been sincere, but it should be noted that he had a cranial traumatism one year ago and several nervous disturbances since. It is true, however, that in the latter case, the air police found four unusual marks on the railroad ties near the spot indicated by the witness, marks that could not have been made by the tools of railroad workers.

Italy

STRANGE FLYING OBJECT SEEN IN TUSCANY -- Paris, Franc-Tireur, 1, Sep 54

Grosseto, 16 September -- Two inhabitants of Pitigliano report the sighting of a round, white object making a strange, loud noise, flying near Grosseto in Tuscany, on 14 September. The object came to a standstill and then disappeared at high speed.

MYSTERIOUS OBJECT OBSERVED OVER ROME -- Dakar, Paris-Dakar, 20 Sep 54

Rome, 18 September (AFP) -- On the afternoon of 17 September, the control tower at the Ciampino air base observed a mysterious object shaped like half a cigar flying slowly at an altitude of about 1,200 meters. The object, leaving a trail of luminous smoke, was visible for about 40 minutes. Those manning the tower watched the object make a 400-meter dive and then regain its former altitude, moving from a horizontal to a vertical position. As the object took off toward the sea, the Ciampino tower notified the Pratica di Mare control tower,

30 kilometers from Rome, which picked up the object and followed it on its radar screen for about 20 minutes. The radar showed the presence of an antenna located at the center of the widest part of the object.

The Netherlands

"FLYING SAUCERS" OVER THE HAGUE -- Amsterdam, De Telegraaf, 6 Aug 54

Ten firemen and their chief observed two "flying saucers" over The Hague on the night of 4 August between 2300 and 2400 hours. The objects were seen in the clear night air at a high altitude. They moved at incredible speed, at times remaining motionless for as long as 30 seconds. They were described as being flat ovals with a whitish-gray light. All of the observers agreed that the objects could not have been aircraft or balloons.

NEAR EAST/AFRICA

Turkey

SIGHT UNIDENTIFIED FLYING OBJECTS OVER IZMIR PROVINCE -- Nicosia, Halkin Sesi, 31 Jul 54

Izmir, 30 July (Turkish News Agency) -- It has been reported that unidentified flying objects have recently been observed in the sky over Izmir Province. These objects, which have been sighted by thousands of persons in the Karaburun area of Izmir Province, were flying at great speed from east to west.

Izmir, Yeni Asir, 18 Aug 54

On 17 August, at approximately 1000 hours, as the Ayvalik-Izmir bus approached the Bergama road intersection, passengers observed a silver-hued, oval object in the air. Mustafa Turuut, one of the 25 passengers, stated that the object appeared to be very close to the ground and that it emitted a loud rustling sound, rose, and disappeared.

UNIDENTIFIED FLYING OBJECTS OVER TUNCELI PROVINCE -- Istanbul, Cumhuriyet, 21 Aug 54

Hozat, 21 August -- At approximately 1000 hours today, two unidentified flying objects were observed traveling at an altitude of 5,000 meters. One of the objects, which appeared from southwest of the town of Hozat, maintained its course and left in a northeasterly direction. The other object first rose to a considerable height and then disappeared in the same direction.

Uganda

"FLYING SAUCERS" SEEN IN EAST AFRICA -- Paris, Le Parisien Libere, 14 Sep 54

Kampala, 13 September -- A civil servant stated that he had seen [illegible] unspecified] over Kampala, Uganda, a strange golden ball which appeared to be smaller than the moon yet larger than a star.

Several other inhabitants in East Africa also claim to have seen "flying saucers" recently.

FAR EAST

Singapore

STRANGE LIGHT SEEN OVER AIRFIELD -- Calcutta, Jugantar, 6 Sep 54

A mysterious light traveling at high speed was observed over Singapore on the night of 4 September. Several persons reported this sighting to the British aviation authorities at Kalar [sic; Kallang?] Airfield. A British official said that at least six persons reported seeing the light. Rosemary Whitley, wife of a government radio engineer, said that she saw a huge white light traveling at a very high speed over the airfield.

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LIBRARY SUBJECT AND AREA CODES

10/54

[redacted]

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[redacted]

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT : Sightings of Flying Saucers or Unconventional Aircraft

[redacted] All four participants in the observation of the flying saucers [redacted] unconventional aircraft have now been debriefed and the following is a summary of their observations.

2. The party was travelling by train [redacted] the specific request of [redacted] who tried to use rail transportation whenever it was at all feasible. The sightings were noted about ten minutes beyond [redacted] 1910 hours when it was already dark. [redacted] was resting alone in his compartment with the lights out when he noted a small greenish-yellow glowing ball rising quite rapidly. He informed the other members of the party who were occupying the other compartment and a few minutes later they too observed another object.

3. [redacted] never saw the form of the object only the luminescent ball. [redacted] saw only two lights resembling eyes. [redacted] saw a shadowy object with a single light in the middle at the top and a rotating light or lights similar to exhausts at the base. [redacted] and the impression that the object could have been as small as a rocket although there were no objects available to produce a satisfactory scale and no trail was left by the rising ball. [redacted] considered the size of the object to be comparable to that of a U. S. jet fighter. However, [redacted] believes that the object did not resemble any aircraft, rocket or missile that he had ever seen. All observers agree on the impression that the object was rotating or whirling during its rise along its initial steep trajectory. Neither [redacted] [redacted] any change in this trajectory, but [redacted] stated that the object altered its pattern to horizontal flight quite sharply. Neither [redacted] any objects on the ground with the exception of the search light, but [redacted] reported the presence of a triangular object with three lights which appeared to be ejected from a launching site.

4. Based on the interviews so far, the only testimony which would support the existence of flying saucers or radically unconventional aircraft is that of [redacted] All other

[redacted]

MEMORANDUM FOR: Director of Central Intelligence

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[redacted] All four participants in the observation of the flying saucers [redacted] unconventional aircraft have now been debriefed and the following is a summary of their observations.

2. The party was travelling by train [redacted] at the specific request of [redacted] who tried to use rail transportation whenever it was at all feasible. The sightings were noted about ten minutes beyond [redacted] at 1910 hours when it was already dark. [redacted] was resting alone in his compartment with the lights out when he noted a small greenish-yellow glowing ball rising quite rapidly. He informed the other members of the party who were occupying the other compartment and a few minutes later they too observed another object.

3. [redacted] never saw the form of the object only the luminescent ball. [redacted] saw only two lights resembling eyes. [redacted] saw a shadowy object with a single light in the middle at the top and a rotating light or lights similar to exhausts at the base. [redacted] had the impression that the object could have been as small as a rocket although there were no objects available to produce a satisfactory scale and no trail was left by the rising ball. [redacted] considered the size of the object to be comparable to that of a U. S. jet fighter. However, [redacted] believes that the object did not resemble any aircraft, rocket or missile that he had ever seen. All observers agree on the impression that the object was rotating or whirling during its rise along its initial steep trajectory. Neither [redacted] noted any change in this trajectory, but [redacted] stated that the object altered its pattern to horizontal flight quite sharply. Neither [redacted] saw any objects on the ground with the exception of the search light, but [redacted] reported the presence of a triangular object with three lights which appeared to be ejected from a launching site.

4. Based on the interviews so far, the only testimony which would support the existence of flying saucers or radically unconventional aircraft is that of [redacted] All other

[redacted]
Copy [illegible] of [illegible]

[redacted]

Copied From Nearly Illegible Original

SUBJECT: Sightings of Flying Saucers or Unconventional Aircraft

observations can probably be explained as other climbing aircraft or missiles. Further discussions will probably be required before the matter can be completely resolved. In the meantime, however, the evidence does not appear sufficiently firm to warrant the conclusion that the Soviets have developed and have in operation a radically new type of aircraft.

WILBUR SCOVILLE, JR.
Assistant Director
Scientific Intelligence

OSI:WScoville:gs (31 October 1955)

Distribution:
Orig & 1 - Ad
1 - DD/I
1 - OCI
✓1 - ASD/SI
1 - ON/SI
2 - AD/SI

[redacted]

[redacted]

9#100

MEMORANDUM FOR: Chief, [redacted]

SUBJECT: Observation of Flying Object Near [redacted]

During my trip inside the [redacted] as a member of [redacted] party, I was one of four persons who observed an unusual flying object in the [redacted] area. Following are the details of my own observation of this object, to the best of my recollection:

1. Our trip from [redacted] by train was planned according to timetables available in [redacted] and we were originally scheduled to leave [redacted] during daylight. Apparently the [redacted] officials responsible in [redacted] did not know about certain changes which had been made in the train schedules, and our schedule was altered in [redacted] We left [redacted] at about 1800 hours on Tuesday, [redacted] Our accommodations were in a "soft" sleeping car of the international type, consisting of six two-person compartments. The car was occupied as follows:

Compartment 1.- Porter
2.- Probably empty
3.- [redacted]
4.- Myself and a [redacted], an American civilian who was [redacted] traveling on private business.
5.- A [redacted] general who wore a hat with a [redacted]
6.- A young civilian, about 26 years old, probably [redacted]

Front

6	
5	
4	
3	
2	
1	

The car was arranged with compartments all on one side, the left side as one faced forward, with an aisle on the right side. There were windows in the compartments and on the outside of the aisle, but not in the aisle wall of the compartments. However, during the time of the observation, the door to my compartment was open, so that movement of persons in the aisle would have been observable. My recollection is that the window of my compartment may have been open a little way from the top. Prior to the time of observation, [redacted] were all together in Compartment 4.

2. From [redacted] the train traveled slowly along the [redacted] in a generally southerly direction. Before the train turned at [redacted] went to his own compartment to rest and turned

[redacted]
9#1cc

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2. From [redacted] the train traveled slowly along the [redacted] in a generally southerly direction. Before the train turned at [redacted] went to his own compartment to rest and turned off the light in Compartment 3. At [redacted] the train turned westward.

3. About ten minutes after we had passed [redacted] returned to Compartment 4, and, with great excitement, said, "I just saw a flying saucer!" The time was then about 1910 hours. When asked where he had

[redacted]

192

seen it, [redacted] went to the window of the compartment, saying, "Turn off the lights." [redacted] also went to the window, and I looked over their shoulders. [redacted] said, "I just saw it coming up." When the lights were off, I saw through the window, to the south of the train, an object resembling a searchlight at the end of the horizon, perhaps a little above the horizon. It did not throw a beam but instead glowed with a reddish light, something like the glowing of an electric hot plate. It looked like a circular light standing on edge, facing the train, and perhaps tilted slightly downward. I had the impression that the searchlight was at a distance of perhaps four to six miles. The land was flat and without buildings, installations, or special vegetation. At the time of observation, twilight had fallen and the first few stars were out but it was still light enough to see for some distance. The sky was clear, with no clouds.

4. At this point I said, "I don't see it." [redacted] said, "Here, it's coming again"; and the others said, "Yes, it's coming up. It's whirling." I then noticed an object slightly to the right of the searchlight. It had two shining eyes and seemed to be rising vertically. It then seemed to change course and to approach the train on more of a horizontal course but still ascending slightly (traveling northward). I am not certain whether the body of the object changed position, but the eyes, which seemed to be fixed on the side of the object facing the train during the ascent, continued to face toward me. The eye on the left was brighter than the other but both gave a white light, glowing like a firefly rather than casting a beam. On the horizontal course, the object gave the impression of gliding. No noise was heard and no exhaust glow or trail was seen by me. When the object appeared to be about to pass over the train, I ran to the other side of the train in order to look out the window on the aisle side, but I saw nothing. The observation lasted about six or seven seconds, maybe less. The porter was standing in the corner of the aisle, forward, near Compartment 6, but did not seem to be looking out the window at the time.

5. After the object had passed, we turned on the lights in the compartment, and [redacted] said, "We saw a flying saucer. [redacted] I wanted you boys to see it so that I would have witnesses." Everyone in the compartment was convinced that we had seen something real and unusual. I asked if it could have been some kind of airplane and the others replied, "No, there was no resemblance."

6. A few minutes later, [redacted] returned to his compartment. [redacted] then suggested that I, as interpreter, ask the porter the name of the last station which we had passed. I was reluctant to do so for fear of arousing the porter's suspicion. However, [redacted] insisted and, about five to seven minutes after the observation, I approached the porter in the aisle and in a roundabout way approached the question of the names of the last and next stations, whether they were large, and how long we

would stop at the next station, commenting that we should like to obtain some water or tea. The porter answered in only general terms, not naming the stations, but saying, "The next station will be a longer stop and you will be able to get off to buy something." I returned to the compartment and told [redacted] that the porter seemed a little reluctant to give any details. A few minutes later the porter came into Compartment 4 and pulled down the window shade, saying [redacted] (It's better this way). He also pulled the shades on the aisle windows, but I do not recall his entering the [redacted] compartment to pull the shades. After the stop at the next station, he gave me the name of the station: [redacted] (redacted) The porter may have shown some slight excitement when he pulled the shades, but I do not believe that his excitement was connected with our observation. I believe that the cause may have been his failure to follow the standard rule on [redacted] trains to pull the shades as soon as it became dark. He was late in doing this, and no doubt we were passing through some restricted area where such instructions must be observed strictly. I do not believe that either of the other two passengers in the car tipped off the porter that something important had happened. Before dark, the [redacted] in Compartment 5 had asked the porter to prepare his bed because he had to get up at 0200 hours to get off the train. As far as I knew, he went to bed quite some time before the occurrence. The civilian from Compartment 6 was seen in the aisle sometime after the occurrence but not at the time of the occurrence.

7. I cannot describe the shape of the object which we observed, inasmuch as I observed no silhouette. I had the impression of a short object, probably shorter than an airplane, but in no way did I obtain an impression of the silhouette of an airplane. Perhaps the object could have had short wings. I am not certain whether it was or was not disc-shaped or circular. It appeared to me that the object at first was farther from the train than the searchlight. At all times, the searchlight appeared to be larger than the object and stationary. I cannot estimate the altitude reached by the object, but it was very high. I cannot estimate the speed at which the object traveled. It did not seem to be traveling very fast. On its horizontal course, it seemed to be gliding smoothly, and it seemed to be moving more slowly as it approached the train than when first observed. It definitely did not whizz by at an unusual speed. I did not hear any noise which might have been associated with the object, and I believe that the sound of an airplane engine could have been heard over the train noises. I best observed the eyes of the object when the object approached the train. They were distinctly two in number, set apart at a fixed distance, but I cannot estimate how far apart they were. I observed no other, small lights on the object. I do not recall seeing any military traffic or installations of significance within half an hour on either side of the point of observati

8. Only [redacted] and I were debriefed in [redacted] and at that debriefing [redacted] was the principal speaker; I provided only a few supplement

[redacted]

details. [redacted] was not debriefed on the subject. Except for the debriefing in [redacted] I have not discussed this matter with other members of [redacted] party since the occurrence.

[redacted]

[redacted]

[redacted]

Interrogation of [redacted]

1. The train was about one hour and ten minutes out of [redacted] The train had traveled for about 10 minutes after it turned east away from the [redacted] The time was about 7:10 PM.

2. The object was sighted out the left side of the train. The landscape was a bare plain to the horizon.

3. The train was moving at about 30 mph.

4. The lights had been turned on in the train but it was not yet completely dark outside.

5. The sky was clear.

6. [redacted] was resting in one compartment which was dark.

7. [redacted] were in second compartment with lights on.

8. [redacted] came into compartment and announced that he had seen a flying saucer.

9. The lights were extinguished and all looked out the window.

10. [redacted] saw a search light which was described as a glow. There was no beam.

11. When the object was pointed out to him he saw two white lights, like eyes, rise vertically and then move rapidly over the train. He looked out the opposite side of the train but could see nothing.

12. The body of the object appeared only as a darkened object against the sky. It may have been square or round, he was not sure.

13. The lights were not quite equally spaced on the span of the object, being somewhat closer together than the distance to the tips.

14. There appeared to be stub wings on the object.

15. The object appeared to be about 1/3 the size of the searchlight.

16. It was not possible to estimate the distance to the object.

17. The total time of sighting was estimated to be about 5 seconds.

18. About 10 minutes after the sighting, the steward came in the [redacted] and pulled the shade down. When they protested he said it

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[redacted]

[redacted]

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19. Source went to see if he could learn the name of the station they had passed about 10 minutes before, but had no success.

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[redacted]

Notes on interview with [redacted]

1. The train left [redacted] at about 6:00. It was still light enough to take color photos.
2. About an hour & 10 minutes later ten minutes out of the station after the train had turned away from the sea the sighting occurred.
3. The [redacted] was in one compartment alone, with the lights out. The [redacted] was in the adjacent compartment with the lights on. It was getting dark but the horizon was light.
4. The [redacted] rushed into their compartment & announced that he had seen a flying saucer. The lights were extinguished & all looked out the window. For a moment they saw nothing then [redacted] said, "There it is."

[redacted]

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3. The [redacted] was in one compartment alone, with the lights out. The Col., Mrs [redacted] & Mrs [redacted] were in the adjacent compartment with the lights on. It was getting dark but the horizon was light.
4. The [redacted] walked to their compartment & announced that he had seen an flying saucer. The lights were extinguished & all looked out the window. For a moment they saw nothing then [redacted] said, "There is [redacted] saw a shadow object against the sky slightly the horizon moving upward. The object appeared to rotate slowly. There were seven lights or jets visible on the

The forward speed was faster than a jet.

light on top of the object.
The object was a flat circula
shape with a bulge upwar
described as similar to a
partially inflated baloon.
The object moved upward
rotating slowly, it stopped
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horizontal. The lights appeared to
be diffused. The lights were
[illegible] to be associated

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The object moved upward rotating slowly, it stopped rotating and moved rapidly over the train. It did not appear to increase in size as it moved over the train.

There were no wings on the object & it was said not to be a conventional airplane.

No estimate of distance could be made. Its size was thought to be about as large as a fight.

There were two search lights to the left with the beam horizontal. The lights appeared to be diffused. The lights were not thought to be associated with the object.

The object appeared to be about 30° ahead of the viewer & crossed the train at about 90°. The train was moving

The forward speed was thank a jet.

Isaac.
Turned off lights.
Rose short arc.
Reached alt & took off.
No noise.
Slow revolved dark object
flame revolved. after glow
afterwards. turned very slow.
Spinning like a top.
Time
Two search lights. one 11 to grow
other at an angle 11 to grind
Not in sun rays.
Faster than jet.
To large for rocket.
Revolving stopped & obj moved
rapidly forward.
Looked like deflated balloon
Several jets around rim
white light on top.
Side light white.

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side light white.
Searchlight 1 mile.

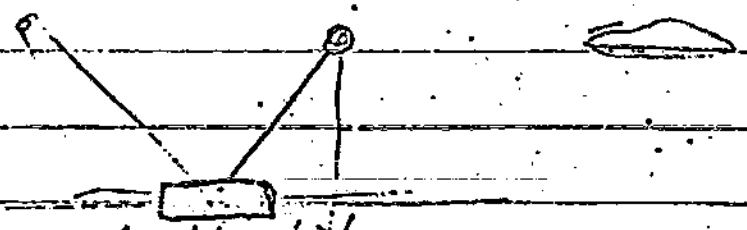
[redacted]

[redacted]

Left [redacted] 6:00 PM 4th rd
Dark at 6:30
6:45 [redacted] met to compartment.
Compt door open
10 min after train turned.
Left

[redacted]

Light enough to take color pictures at
object spinning light on top
light on side spinning.



6–7 Seconds flight time.

Helicopter

[redacted]

Left [redacted] 6:00 PM 4th oct

Dark at 6:30

6:45 [redacted] met to compartment

compt door open

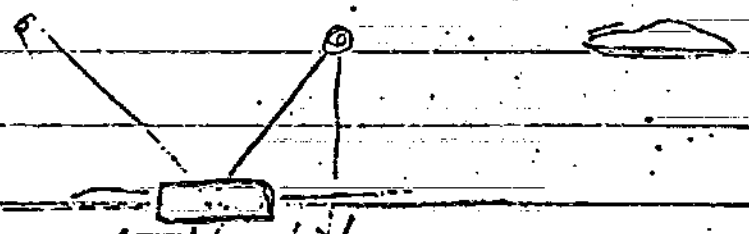
10 min after tran turned.

Left

[redacted]

Light enough to take color pictures at object spinning light on top

light on sides spinning.



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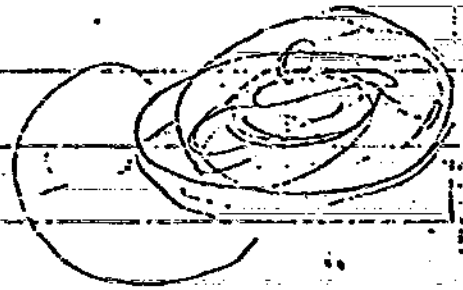

100 yds from large jet bomber.

much larger than transport.

Repair base,

got a picture,

The object as sighted by [redacted]

1. The object was in the air rising slightly above the horizon when first seen.

2. It appeared as a shadowy object which slowly rotated as it ascended. The object was round and appeared like a partially inflated ballon. It had a light on the top. There were several lights or jets on the outer edge. The object moved upward slowly, dipped, rotating, then rapidly moved across the train faster than a jet.

3 The object was reported to be [illegible] at 30° ahead of the train &

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3 The object was reported to be about 30° ahead of the train & crossed directly over at 90°. The train was moving at about 30 MPH. This would make the speed of the object about 60 MPH. Even if only 10°

ESW NR12 ROUTINE GR68 1417252 CH DTG...1416202

[redacted]

MAR 14 1 47 PM '57

WA CITE CHGO EA68

SUPPORT [redacted]

REFER CASE [redacted] AND TELECON. WHAT PROGRESS HAS BEEN MADE? THIS CORRESPONDENCE IS MORE THAN A MONTH OLD, I AM AFRAID THE LONGER WE PROCRASTINATE THE MORE FUEL WE ADD TO THE FIRE. ALSO, THE PEOPLE A WRIGHT FIELD ARE HOLDING THEIR BREATHS AWAITING ADVICE. APPRECIATE REPLY SOONEST.

FILE: [redacted]

CH TOT:14/1630Z

ESW TOT:14/1732Z

APPROVED FOR RELEASE
DATE 24 Nov 75

D - #96

[redacted]

ESE NR34 ROUTINE C 38 2519292

[redacted]

CIGO CITE WA 16998

[redacted] FROM SUPPORT [redacted]

[redacted]

APR 25 2 52 PM '37

THE DCI X DCI HAS RECEIVED A LETTER FROM LEON DAVIDSON X LEON DAVIDSON WHITE PLAINS NEW YORK REQUESTING INFORMATION ON THE RECORDING YOU RECEIVED FROM [redacted] DAVIDSON REFERS TO SOME CORRESPONDENCE HE HAD WITH YOU AND THEN GOES ON TO ASK FOR AGENCY COOPERATION IN LEARNING WHAT THE CODE MESSAGE REVEALED. HE INDICATES THAT HE HAS RECENTLY TESTIFIED BEFORE THE HOUSE SUBCOMMITTEE ON GOVT INFORMATION AND SAYS THAT HIS TESTIMONY WILL DISPLAY HIS INTEREST IN THIS SUBJECT.

WE ARE GETTING COPIES OF THIS TESTIMONY. MEANWHILE CAN YOU ADVISE US AS TO HOW YOU GOT IN CORRESPONDENCE AND HOW HE LEARNED THAT THE DCI WAS THE PROPER PERSON TO ADDRESS HIS REQUEST TO. ANY BACKGROUND INFO YOU HAVE ON HIM WILL BE WELCOME.

ESE TOT: 2519392

APPROVED FOR RELEASE
DATE 24 Nov 78

D-(#91)

PROCESSING COPY

[redacted]

SEE BOTTOM OF PAGE FOR SPECIAL CONTROLS, IF ANY

[redacted]

INFORMATION REPORT

PREPARED AND DISSEMINATED BY

CENTRAL INTELLIGENCE AGENCY

COUNTRY: Belgian Congo	REPORT NO.: 00- A 50066
SUBJECT: Report of Unidentified Flying Objects	DATE DISTRIBUTED: 6 Jan 56
	NO. OF PAGES: 1 / NO. OF ENCLS.
	SUPPLEMENT TO REPORT #
PLACE ACQUIRED (By source)	RESPONSIVE TO:
DATE ACQUIRED (By source): Early Dec 55	DATE OF INFORMATION (Date or dates, or as between which, events or conditions described in report entered): 25 Nov 55

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

In early November 1955 we received a letter from [redacted] Kivu, Belgian Congo, requesting price and delivery information on a short, compact, 60x telescope which we manufacture for sportsmen. The following paragraphs are taken from [redacted] letter:

"As you Americans do not want to tell us what the so stupidly called 'flying saucers' are, and above all, what they want (and this may be very important in the future), I need your excellent telescope for myself and my observation group which I am just creating.

"The UFO [Unidentified Flying Objects] are coming more and more over this country, and owing perhaps to the very nature of this land and its beautiful nights, we here look more often in the sky than the busy Americans.

"When telling me the prices, please remember that the packing must be almost crane-plated, because otherwise the local vandals may destroy the telescope even before it reaches me."

- End -

[redacted]

INFORMATION REPORT

PREPARED AND DISSEMINATED BY

CENTRAL INTELLIGENCE AGENCY

[redacted]

COUNTRY: Belgian Congo	REPORT NO.: 00-A 50066
SUBJECT: Report of Unidentified Flying Objects	DATE DISTRIBUTED: 6 Sep 56
	NO. OF PAGES: 3 / NO. OF ENCLS.:
	SUPPLEMENT TO REPORT #:
PLACE ACQUIRED (By source):	RESPONSIVE TO: DC/C
DATE ACQUIRED (By source): Early Dec 55	DATE OF INFORMATION (Date or dates, as or between which, events or conditions described in report entered): 25 Nov 55

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- End -

[redacted]

[redacted]

Date: 2 Nov 7[illegible]

This unevaluated information is supplied on the possible interest of other analysts. It does not warrant dissemination by [redacted] report.

D-#52

[redacted]

WA CITE CHGO 8491

SUPPORT [redacted]

RE CASE [redacted]

REFER WA 16990 X 16996. UNDER DATE 6 X 6 MARCH [redacted] RECEIVED A LETTER FROM DAVIDSON [redacted] IN WHICH DAVIDSON ASKED IF THE [redacted] TAPE HAD BEEN ANALYZED AT ATIC X ATIC WRIGHT FIELD. [redacted] REPLI THAT THE TAPE WAS FORWARDED TO PROPER AUTHORITIES FOR EVALUATION AND NO X NO INFORMATION WAS AVAILABLE CONCERNING RESULTS. [redacted] THEN RECEIVED A SECOND LETTER DATED 19 X 19 MARCH FROM DAVIDSON IN WHICH HE SAID SINCE [redacted] WAS NOT IN A POSITION TO MAKE ENQUIRIES HE WOULD LIKE ADDRESS OF PROPER PARTIES TO WHOM TO MAKE THEM. [redacted] REPLIED THAT HE UNDERSTOOD THE PROPER ADDRESS FOR FORWARDING INFORMATION ON "FLYING SAUCERS" IS AIR TECHNICAL INTELLIGENCE CENTER, WRIGHT PATTERSON AIR FOR BASE. SUBSEQUENTLY, [redacted] LEARNED THAT DAVIDSON MADE ENQUIRIES THERE. APPARANTLY THEY STALLED HIM. [redacted]

FILE: [redacted]

SUPPORT [redacted]

RE CASE [redacted]

REFER WA 16990 X 16990. UNDER DATE 6 X 6 MARCH [redacted] RECEIVED A LETTER FROM DAVIDSON [redacted] IN WHICH DAVIDSON ASKED IF THE [redacted] TAPE HAD BEEN ANALYZED AT ATIC X ATIC WRIGHT FIELD. [redacted] REPLI THAT THE TAPE WAS FORWARDED TO PROPER AUTHORITIES FOR EVALUATION AND NO X NO INFORMATION WAS AVAILABLE CONCERNING RESULTS. [redacted] THEN RECEIVED A SECOND LETTER DATED 19 X 19 MARCH FROM DAVIDSON IN WHICH HE SAID SINCE [redacted] WAS NOT IN A POSITION TO MAKE ENQUIRIES HE WOULD LIKE ADDRESS OF PROPER PARTIES TO WHOM TO MAKE THEM. [redacted] REPLIED THAT HE UNDERSTOOD THE PROPER ADDRESS FOR FORWARDING INFORMATION ON "FLYING SAUCERS" IS AIR TECHNICAL INTELLIGENCE CENTER, WRIGHT PATTERSON AIR FOR BASE. SUBSEQUENTLY, [redacted] LEARNED THAT DAVIDSON MADE ENQUIRIES THERE. APPARANTLY THEY STALLED HIM. [redacted]

FILE: [redacted]

CH TOT:26/1605Z

ESW TOT:26/1720Z

APPROVED FOR RELEASE
DATE [illegible]

CLR

D- #92

(62)

C
O
P
Y

ER 6-9363-A

8 January 1957

Honorable Margaret Chase Smith
United States Senate
Washington 25, D. C.

Dear Senator Smith:

Thank you for your letter of 2 January 1957, enclosing a letter from Mrs. Vincent J. Perry of Mexico, Maine.

We will see to it that this letter is forwarded to the proper authorities for action.

With kindest regards.

Sincerely,

/s/ Allen W. Dulles
Director

8 January 1957

Honorable Margaret Chase Smith
United States Senate
Washington 25, D. C.

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We will see to it that this letter is forwarded to the proper authorities for action.

With kindest regards.

Sincerely,

/s/ Allen W. Dulles
Director

62

(64)

1957

Mr. John P. Anderson
Box 210
Cocoa Beach, Florida

Dear Mr. Anderson:

I wish to acknowledge receipt of your letter of 4 January 1957. It was very kind of you to send us this report of an unidentified flying object. We appreciate very much the additional comments which you appended.

Sincerely,

Herbert Scoville, Jr.
Assistant Director

Distribution:
2 - Addressee
1 - ASD
1 - Exec/chrono
2 - AD/SI

(b)(3) OSI/GWMathews:jla (16 Jan 57)

b3

75

1 6 . . 1957

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Cocoa Beach, Florida

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Distribution:
2 - Addressee
1 - ASD
1 - Exec/chrono
2 - AD/SI

(5)(3) OSI/CWMathews:jla (16 Jan 57)

b3

75

64

(3)

[redacted]

ER 8-0735

26 March 1956

MEMORANDUM FOR: Assistant Director/Scientific Intelligence

SUBJECT : Flying Saucers

1. At Arden House my attention was called to the 17 March 1956 issue of the French popular magazine, MATCH, which had an article on a particularly challenging "sighting" of a MOC (mysterieux objet celestiel) in the form of a radar photograph confirmed by a visual sighting by the pilot of a scheduled airline.

2. Are we keeping in touch with the Air Force center on these things? Does it concern itself with foreign "sightings" such as the above?

3. I am also informed that in the coming year Mars will reach its closest point to the Earth in a long period. Outlandish as it may seem, I do feel that OSI has the responsibility to keep its finger on this general subject if for no other purpose than to arm the front office with the refutation of the more spectacular published reports.

Robert Amory, Jr.
ROBERT AMORY, JR.
Deputy Director/Intelligence

3974.0

[redacted]

26 March 1956

MEMORANDUM FOR: Assistant Director/Scientific Intelligence

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ROBERT AMORY, JR.
Deputy Director/Intelligence

39740

58

SEE BOTTOM OF [redacted] ...TIONAL SPECIAL CONTROLS, IF ANY [redacted]

INFORMATION REPORT

REPARED AND DISSEMINATED BY

CENTRAL INTELLIGENCE AGENCY

COUNTRY: [redacted]	REPORT NO.: 00-B-90229
SUBJECT: Sighting of Unconventional Aircraft	DATE DISTRIBUTED: 15 NOV 55
	NO. OF PAGES: — NO. OF ENCLS: —
	SUPPLEMENT TO REPORT #:
PLACE ACQUIRED (By source): [redacted]	RESPONSIVE TO: [redacted]
DATE ACQUIRED (By source): 4 Oct 55 — DATE OF INFORMATION (Date or dates, on or between which, events or conditions described in report existed): 4 Oct 55	

THIS IS UNEVALUATED INFORMATION

SOURCE: [redacted]

1. At 1630, 4 Oct 55, I boarded a train at [redacted] for [redacted] in the company of [redacted], one of whom shared a Wagon-Lit compartment with me; the other two occupied the adjoining compartment. The train ran very slowly, making every stop; I would estimate its overall speed at 20 mph. Exactly two hours and forty minutes out of [redacted] one of our group in the compartment next door entered my compartment and said, "Did you see that out there? I just saw a flying saucer." I and my compartment companion were about to laugh it off when the man from next door pointed out of the window again, and then we all saw the following sight.

2. On the lefthand side of the train, between the train [redacted] was a large air-field. The evening was dark but clear. A huge search [illegible] on the field itself, [illegible] on a triangular object on the ground which I would say was probably not more than two miles distant from the railroad. [Collector's comment: Source first estimated that the air field was about five miles away but, on further reflection, changed the distance to the object to two miles.] The size of the object was comparable to that of a [redacted] jet fighter, with a squat shape and in the form of an equilateral triangle. There were three lights on the object, one on each point of the triangle, presumably two wing lights and a tail light. As we watched, it was ejected from its launching site, making not less than three and not more than seven fast spirals in the air, after which it climbed extremely fast at about a 45 degree angle. We watched it climb and saw it reach a high altitude; the search [illegible] followed it all the way.

3. I wish to emphasize that this was no ordinary take-off but a launching procedure more like a missile ejection. Our companion from next door reported that this was the second launching in rapid succession.

4. I believe that the train at the time of the sighting was between 50 and 65 miles south of [redacted]. While the four of us were still watching the object ascending, the steward came in and pulled down the blinds. When I began to protest the steward pointed toward the rear of the car and shook his head, [redacted]

[redacted]

DISTRIBUTION

STATE | ARMY | NAVY | AIR | OIL

SUBJECT: Sighting of Unconventional Aircraft

DATE INTERVIEWED: 15 NOV 55

NO. OF PAGES | NO. OF ENCLS.

SUPPLEMENT TO REPORT #

PLACE ACQUIRED (By source): [redacted]

RESPONSIVE TO: [redacted]

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[redacted]

DISTRIBUTION

STATE | NAVY | NAVY | AIR | FBI

D-(#51)

NOFORN LIMITED

LIMITED Dissemination limited to full time employees of CIA, AEC and FBI; and within State and Defense to the intelligence components, other offices conducting NIS elements and higher scholars with their immediate supporting [illegible]. Not to be disseminated to consultants, external projects or [illegible] on short term [illegible]

APPROVED FOR RELEASE

Date [illegible]

[redacted]

5. Our party had wished to make this part of the journey by air, but we were informed by [redacted] in [redacted] that there were no flights between [redacted] and [redacted]. In [redacted] the [redacted] people were surprised that our party had not flown and said that there were several flights a day.

- end -

[redacted]

(71)

[redacted]

SEE BOTTOM OF PAGE FOR ADDITIONAL SPECIAL CONTROLS, IF ANY

INFORMATION REPORT

PREPARED AND DISSEMINATED BY

CENTRAL INTELLIGENCE AGENCY

COUNTRY: Hungary	REPORT NO.: CO- B-93674
SUBJECT: Report of Unusual Flying Object Sightings and Attendant Scientific Activity	DATE DISTRIBUTED: 17 Apr 56
	NO. OF PAGES: 1 / NO. OF ENCLS.:
	SUPPLEMENT TO REPORT #
PLACE ACQUIRED (By source): - - - - -	RESPONSIVE TO: OO/C-
DATE ACQUIRED (By source): Nov 55 / DATE OF INFORMATION (Date or dates, on or between which, events or conditions described in report occurred): Nov 55	

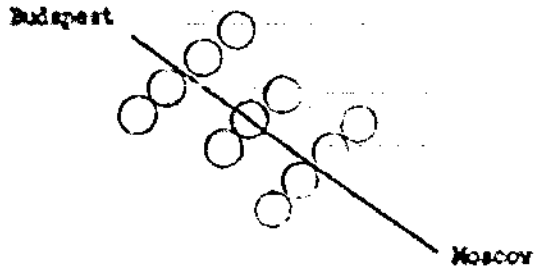
THIS IS UNEVALUATED INFORMATION

SOURCE

1. In November 1955 I received a letter from my niece in Budapest. This letter contained the following interesting item [free translation]:

   "The so-called flying saucers (rockets) [sic] for several weeks kept the people in a nervous state. These very fast speeding flyers kept scientific groups very busy. I'm sure you heard already from the papers, 12 thousand km per hour was estimated on these flyers."

2. Included with the letter was the following sketch indicating the formation and suspected course of the above objects:



3. This is the first time my niece has mentioned such objects in her letters.

4.

- end -

COUNTRY: Hungary	REPORT NO. 00- B-93674
SUBJECT: Report of Unusual Flying Object Sightings and Attendant Scientific Activity	DATE DISTRIBUTED: 17 Apr 56
	NO. OF PAGES: 1 / NO. OF ENCLS.
	SUPPLEMENT TO REPORT #
PLACE ACQUIRED (By source): - - - - -	RESPONSIVE TO: DO/G: [redacted]
DATE ACQUIRED (By source): Nov 55 / DATE OF INFORMATION (Date or dates, on or between which, events or conditions described in report existed): Nov 55	

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

1. In November 1955 I received a letter from my niece in Budapest. This letter contained the following interesting item [free translation]:

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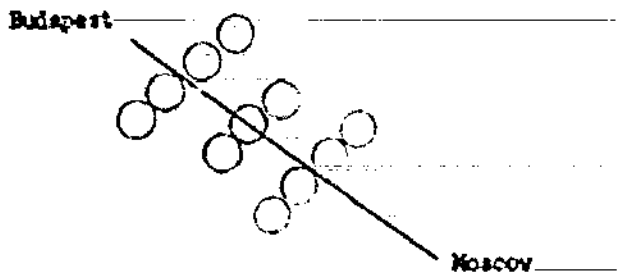

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4. [redacted]

- end -

[redacted]

D - #53

SEE BOTTOM OF PAGE FOR SPECIAL CONTROLS, IF ANY

[redacted]

INFORMATION REPORT

PREPARED AND DISSEMINATED BY

CENTRAL INTELLIGENCE AGENCY

[redacted]

COUNTRY: USSR/Stalingrad

SUBJECT: Fast-moving Flying Objects Over Stalingrad In Spring 1954

REPORT NO: 00-B-18589

DATE DISTRIBUTED: 2 AU - 1956

NO. OF PAGES: 1

NO. OF ENCLS:

SUPPLEMENT TO REPORT #:

RESPONSIVE TO:

DO/C

[redacted]

PLACE ACQUIRED (By source): USSR/Stalingrad

DATE ACQUIRED (By source): Spring 1954

DATE OF INFORMATION (Date or dates, all or between which, events or conditions described in report existed): Spring 1954

THIS IS UNEVALUATED INFORMATION

SOURCE: [redacted]

In the spring of 1954, I was hospitalized for treatment for yellow jaundice at a military hospital near the Barrikadi Munitions Works (48 48 N - 44 32 E). On two occasions during the period of my convalescence, I, as well as other patients at the hospital, observed the flight of an unknown object from horizon to horizon, flying from southeast to northwest. This object appeared to be climbing. I cannot describe the object, but as I remember, it took approximately one minute for the object to leave the range of my vision. This object caused a great amount of vibration in the air and made a screeching, whistling noise which was different from the noise made by an artillery shell in flight. I could not see the object itself, but I did see disturbance in the air which seemed to envelop it.

-End-

LIBRARY SUBJECT & ... CODES

DATE 6 ... 75

Fast-moving Flying Objects Over Stalingrad
In Spring 1954

NO OF PAGES 1 | NO OF ENCLS

SUPPLEMENT TO REPORT #

RESPONSIVE TO

OO/C

[redacted]

PLACE ACQUIRED (By source)

USSR/Stalingrad

DATE ACQUIRED (By source) | DATE OF INFORMATION (Date or dates, on or between which, events or conditions described in report existed)

~~Spring 1954~~ ~~Spring 1954~~

THIS IS UNEVALUATED INFORMATION

SOURCE

[redacted]

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-End-

LIBRARY CLASSIFICATION CODES

[redacted]

D-#54

(6)

[redacted]

9 JAN 1[illegible]

MEMORANDUM FOR THE RECORD

SUBJECT : Office Responsibilities for Non-Conventional Types of Air Vehicles

REFERENCE: Memorandum for the Record, 14 June 1954, this subject

1. Reference memorandum is hereby rescinded.

2. Henceforth, ASD will conduct all surveillance of available information on this subject. All other OSI Divisions will provide such technical consultative assistance to ASD as it requires to discharge its assigned responsibility in this field. ASD will request a project of the requisite scope when appropriate for inclusion in the OSI Production Program.

3. ASD will maintain the OSI files on this subject. All other Divisions will forward their files to ASD and thereupon terminate their filing activities on this subject.

Herbert Scoville, Jr.

HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

DISTRIBUTION:
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1 - ASD/SI
1 - Elec/SI
1 - FSA/SI
1 - DAD/P/SI
1 - CS/SI
1 - GM/SI
1 - AD chrono

[redacted]

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1 - DAD/P/SI
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1 - GM/SI
1 - AD chrono

[redacted]

(66)

[redacted]

MEMORANDUM FOR DIRECTOR OF INTELLIGENCE, HQS., U. S. AIR FORCE
Attention: AFOIN-1B

SUBJECT: Transmittal of Tabulation on Unconventional Flying Object Sighted Near Baku

1. Attached is one (1) copy of a tabulation of the statements made by each member of the party relative to the unidentified flying object sighted by them on 4 October 1955, while on the train from Baku to Tiflis.

2. This tabulation was prepared by the Office of Scientific Intelligence, CIA, and any questions pertaining to it may be directed to Mr. Wilton E. Lemow, Code 143, Extension 683. b3

FOR THE ASSISTANT DIRECTOR, CENTRAL REFERENCE:

HARRIE A. JAMES
Chief, Liaison Division
Central Reference

b3

Encl: a/s

Enclosure not attached

Distribution:
Orig & 1 - Add. w/e
1 - ASD/OSI
1 - OCR/LD/DB
CPGallagher/kad 8 Feb. 56

b3

MEMORANDUM FOR DIRECTOR OF INTELLIGENCE, HQS., U. S. AIR FORCE
Attention: AFOIN-1B

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FOR THE ASSISTANT DIRECTOR, CENTRAL REFERENCE:

HARRIE A. JAMES
Chief, Liaison Division
Central Reference

b3

Encl: a/s

Enclosure not attached

Distribution:
Orig & 1 - Add. w/e
1 - ASD/OSI
1 - OCR/ID/D3
CPGallagher/kad 3 Feb. 56

b3

[redacted] 38665

56

(57)

[redacted]

9 February 1956

MEMORANDUM FOR THE RECORD

SUBJECT : Responsibility for "Unidentified Flying Objects"

REFERENCE: 1. AD/SI Memorandum for the Record, 9 January 1956, "Office Responsibilities for Non-Conventional Types of Air Vehicles"

2. Special Report #14, Analysis of Reports of Unidentified Aerial Objects (Project Blue Book) by ATIC, dated 5 May 1955

1. In accordance with Reference 1, this Division has assumed responsibility within OSI for Non-Conventional Types of Air Vehicles.

2. This Division proposes to handle this responsibility in the following manner:

a. Files will be maintained in ASD on incoming raw reports where, in our judgement, the subject matter may provide information bearing on foreign weapons' system research or development.

b. Those reports which fit under a. above and also could conceivably provide information on foreign fundamental science developments, will be forwarded to Fundamental Sciences Area for review with a request for return to ASD for filing.

c. Those reports which do not fit a. above and which could conceivably provide information on foreign fundamental science developments will be forwarded to the Fundamental Science Area for retention or destruction.

d. Reports which fit under none of the above will be destroyed.

e. A chronological file of all OSI correspondence and action taken in connection with the United States U.F.O. program will be maintained in ASD.

f. A file of finished intelligence reports published by members of the United States intelligence community on U.F.O. will be maintained in ASD.

MEMORANDUM FOR THE RECORD

SUBJECT : Responsibility for "Unidentified Flying Objects"

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[redacted]

SUBJECT: Responsibility for "Unidentified Flying Objects"

3. The procedure stated in 2 a., b., c., and d. will prevent the accumulation of reports which experience and Reference 2 have shown cannot be analyzed in a manner useful to OSI in carrying out its mission.

4. It has been recommended that the raw intelligence and the obsolete finished reports on U.F.O. now filed in Electronics Division be destroyed.

W. E. LEXOW [redacted] b3

(57)

[redacted]

MEMORANDUM TO: Deputy Director/Intelligence

SUBJECT : Flying Saucers

REFERENCE : DD/I Memo, 25 March 1955, same Subject

1. The article in the French magazine Match does not give sufficient information to permit classification or identification of the U. F. O. The tone of the article gives the impression that the sighting has been considerably exaggerated in order to produce a more sensational story. In most cases of foreign sightings it has not been possible to thoroughly interrogate all the people involved, so in many instances no identification has been possible. In the U. S. during the Blue Book investigation, a concentrated effort was made to track down all information possible on each reported sighting; and, as a result, the percentage of unknown and insufficient information cases dropped from 25 per cent to 10 per cent.

If a thorough investigation of the U. F. O. reported in Match were made it would undoubtedly disclose additional data that would permit it to be classified in one of the Blue Book categories, and most likely an identification could be made just as has happened in a number of very similar cases.

2. We do maintain close liaison with the Air Force Technical Intelligence Center on reports of unidentified flying objects. This includes those reports originating in foreign countries as well as the United States.

3. It is true that on 7 September 1956 Mars will be 35.2 million miles from the earth, its nearest position in a long period. Thus, astronomers will have a rare opportunity to study Mars at close range with new electronic equipment now available. Personnel at the Naval Observatory, Washington, attach no important implications to this proximity other than the opportunity for routine scientific study. However, as you suggest, this unusual

[redacted]

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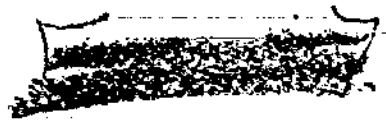

[redacted]

SUBJECT: Flying Saucers

event may precipitate a large number of reports on "flying objects" and "little green men" from Mars. This Office will follow the general subject closely, and keep you informed on the more spectacular published reports.

4. A copy of Hatch and a rough translation of the article are attached.

HERBERT COOVILLE, JR.
Assistant Director
Scientific Intelligence

OSI/ASD/TFDouthitt:pd (13 April 1956)

Distribution:
Orig and 1 - forward
2 - AD/SI
2 - ASD/SI
1 - ASD/A

[redacted]

(57) C (2) 1/6/111

Jan 56

NOTE: There is one other aspect of this whole situation which is not an OSI job, but is of CIA interest because it is of interest to national security. That is:

~~The~~ Mass ~~flying saucer~~ UFO reports could:

(a) produce mass hysteria
(b) ~~jam~~ overload our radar warning system
(c) overload communication facilities.

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That is:

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(a) produce mass hysteria
(b) ~~jam~~ overload our radar warning system
(c) overload communication facilities.

54

(63)

(12-4) 1-25

UNCLASSIFIED CONFIDENTIAL SECRET

(SENDER WILL CIRCLE CLASSIFICATION TOP AND BOTTOM)

CENTRAL INTELLIGENCE AGENCY

OFFICIAL ROUTING SLIP

TO		INITIALS	DATE
1	Air Branch	HB	
2	Electronics (info)	[illegible]	2/4/57
3	Air Branch/ASD (file)		
4	~~[illegible]~~		
5	~~[illegible]~~		
FROM		INITIALS	DATE
1			
2			
3	ASD Responsibility!		

[✓] APPROVAL	[ ] INFORMATION	[ ] SIGNATURE
[ ] ACTION	[ ] DIRECT REPLY	[ ] RETURN
[ ] COMMENT	[ ] PREPARATION OF REPLY	[ ] DISPATCH
[ ] CONCURRENCE	[ ] RECOMMENDATION	[ ] FILE

Remarks:

File UFO

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FORM NO. 30-4 1 NOV 53 Previous editions may be used. (40)

U. S. GOVERNMENT PRINTING OFFICE 16—[illegible]

OFFICIAL ROUTING SLIP

TO		INITIALS	DATE
1	Air Branch	HB	
2	Electronics (info)	[illegible]	2/4/57
3	~~Air Branch/AD-Chief~~		
4	~~[illegible]~~		
5	~~[illegible]~~		
FROM		INITIALS	DATE
1			
2			
3	ATSD Responsibility!		

☐ APPROVAL ☐ INFORMATION ☐ SIGNATURE
☐ ACTION ☐ DIRECT REPLY ☐ RETURN
☐ COMMENT ☐ PREPARATION OF REPLY ☐ DISPATCH
☐ CONCURRENCE ☐ RECOMMENDATION ☐ FILE

Remarks:

File UFO

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63

MEMORANDUM FOR THE DIRECTOR OF INTELLIGENCE, HQS., U.S. AIR FORCE
Attention: AFOIN-1X (Colonel Charles E. Taylor)

SUBJECT: Transmittal of Correspondence pertaining to Reported Citing of an Unidentified Flying Object

1. The attached correspondence is forwarded for such action as deemed appropriate.

2. If an investigation is conducted as a result of this correspondence, it is requested that the Central Intelligence Agency be furnished a copy of the resulting report.

FOR THE ASSISTANT DIRECTOR, CENTRAL REFERENCE:

[redacted]
FRANK A. JAMES
Chief, Liaison Division
Central Reference

b3

Encl: Correspondence

OCR/LD/DB
[redacted]Gallagher/ead
11 Jan 57
Orig & 1 - Add
1 - DB
1 - CSI, [redacted] Lexow [redacted]

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b3

Chief, Liaison Division, OCI

24 January 1956

Chief, Applied Science Division, OSI

Tabulation on Unconventional Flying Object Sighted Near Baku

1. Attached are two copies of our summary and tabulation of subject sighting. For our recent telephone conversation the attachments are for your transmittal to the intelligence components of the Departments of the Air Force and Army.

2. For your information a third copy has been sent to Jack Maury, I.

W. E. LEXOW

b3

Attachment:
(as stated)

OCI/ASD/WLexow:el

b3

Distribution:
Orig and 1 - Forward
2 - ASD
1 - ASD/I

Chief, Applied Science Division, OSI

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b3

Attachment:
(as stated)

OSI/ASD/WLexow:gl

b3

Distribution:
Orig and 1 - forward
2 - ASD
1 - ASD//

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[redacted]

23 January 1956

SIGHTING OF UNCONVENTIONAL FLYING OBJECT
NEAR [BAKU], USSR ON 4 OCTOBER 1955

1. Attached is a tabulation of the statements made by each member of the party relative to the unidentified flying object sighted by them on 4 October 1955 while on the train from [Baku] to [Tiflis].

2. The tabulation has been held for some time awaiting answers to questions by Source 3 which have just been received and incorporated in the chart.

3. From observation of the chart it is apparent that due to darkness and the short duration of the sighting, the observers were unable to distinguish sufficient details to properly describe the object.

[redacted]

	[illegible] 1	[illegible] 2	[illegible] 3	[illegible] 4
[illegible] OF [illegible]TING	1½ hours out of [Baku]	1910	1910	1910
[illegible]IBILITY	After Baku	Lights were on in train, not yet completely dark, sky was clear.	Dark but clear	Enough daylight to see a form
[illegible]TION OF [illegible]TING	- - - - -	6 - 7 seconds	90 seconds, about 5 seconds on ground	very short
[illegible]TION	1½ hours by rail from [Baku]	10 minutes by rail from ATVATY	50 - 60 miles south of Baku	10 minutes by rail from ATVATY
[illegible]TION [illegible] RAIL [illegible]	South of rail line	South of rail line	Left of rail line	South of rail line
[illegible]ANCE [illegible] RAIL [illegible]	Not possible to estimate distance	Not possible to estimate distance	6 miles	1 - 2 miles
[illegible]ER OBJECTS [illegible]	Searchlight	Searchlight, horizon	Large airfield, steel tower, hangars, several searchlights Caspian Sea still visible	Two searchlights
[illegible] OF [illegible]	Ball	Round or square, may have had stub wings	Triangular with point to rear	Round like a partial inflated balloon
[illegible] OF [illegible]	May have been small as rocket	1/3 size of searchlight visible to the left	about the size of US jet fighter	about the size of US jet fighter
[illegible]TION OF [illegible]	Rotated slowly as it rose	Rotation not seen	made three to seven spirals	Rotated slowly

DURATION OF SIGHTING	- - - - -	6 - 7 seconds	90 seconds, about 5 seconds on ground	very short
DISTANCE	1½ hours by rail from Baku	10 minutes by rail from ARJATY	50 - 60 miles south of Baku	10 minutes by rail from ARJATY
LOCATION WITH RAIL LINE	South of rail line	South of rail line	Left of rail line	South of rail line
DISTANCE WITH RAIL LINE	Not possible to estimate distance	Not possible to estimate distance	6 miles	1 - 2 miles
OTHER OBJECTS SEEN	Searchlight	Searchlight, horizon	Large airfield, steel tower, hangars, several searchlights Caspian Sea still visible	Two searchlights
SHAPE OF OBJECT	Ball	Round or square, may have had stub wings	Triangular with point to rear	Round like a partial inflated balloon
SIZE OF OBJECT	May have been small as rocket	1/3 size of searchlight visible to the left	about the size of US jet fighter	about the size of US jet fighter
ROTATION OF OBJECT	Rotated slowly as it rose	Rotation not seen	made three to seven spirals	Rotated slowly
LIGHTS OF OBJECT	None seen	Two stationary lights like eyes	three, one on each point of the triangle, lights were red and green	2 lights on top, lights on part that rotated
[illegible]	Not seen	Not seen	Launched like a missile	Not seen

[illegible]	Climbed rapidly at a steep angle, did not level out	ascended to altitude then moved horizontally	moved rapidly upward at high	ascended to altitude and moved horizontally
[illegible]	Climbed rapidly	Not unusually high	climbed fast	faster than a jet
[illegible]	Greenish-yellow	dark object	too dark to see Color	shadowy
[illegible]	- - - - -	- - - - -	high	ascended to [illegible] feet
[illegible]	None	- - - - -	some flame to rear	sparks or flame came out bottom as object ascended
[illegible]	NONE	NONE	NONE	NONE
[illegible]	Did not follow Object	Did not follow the the Object	Searchlights followed object all the way	No association of searchlights and object
[illegible]	10 minutes after object disappeared	5 - 10 minutes after object disappeared	while still watching the object	after sighting object
[illegible]	- - - - -	- - - - -	No impression of Change	No Change

[illegible]	Greenish-yellow	dark object	too dark to see Color	shadowy
[illegible]	- - - - -	- - - - -	high	ascended to [illegible] feet
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[illegible]	10 minutes after object disappeared	5 - 10 minutes after object disappeared	while still watching the object	after sighting [illegible]
[illegible]	- - - - -	- - - - -	No impression of Change	No Change

SEE BOTTOM OF PAGE FOR SPECIAL CONTROLS, IF ANY

[redacted]

INFORMATION REPORT

[redacted]

CENTRAL INTELLIGENCE AGENCY

Hungary

Unknown Flying Objects Observed Over Budapest

REPORT NO. 00-K-3077200

DATE DISTRIBUTED 1 Apr '57

May 56

[redacted]

THIS IS UNEVALUATED INFORMATION

[redacted]

1. During the early part of May 1956, I was told by several engineers, close associates whom I believe to be reliable, that the Ministry of Defense was alerted concerning the over-flight of a formation of unknown flying objects, flying in an easternly direction during that month.

2. My friends related that that appeared to be aircraft, flying in formation at an extremely high rate of speed at approximately twenty-five thousand meters, were observed by radar units of the Home Air Defense Command. Nothing was done to disturb this flight, the probable reason being that the Home Air Defense Command had no weapons at its disposal to reach these intruders.

3. During the same period, May and June 1956, many reports originating from all sections of Hungary cited the appearance of "Flying Saucers". For two or three weeks, reports appeared almost daily, describing these objects as fast-flying objects which could change direction of flight, acceleration and deceleration with utmost ease. My friends told me of discussions at the War Technical Institute in which Hungary's leading mathematicians, engineers and technicians took part, concerning these objects. It was decided that they did not exist and that if anything, the reports were incited by US propaganda. An official announcement appeared in "Szabad Nep" declaring the entire "flying saucer" scare was a myth.

4. An interesting observation of one of my colleagues however, was "Even if they don't exist, I hope they are on their way to bomb Moscow."

- end -

[illegible]

DATE 6 Nov 75

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- end -

[redacted]

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[redacted]

[illegible] OF [illegible]

[illegible] were improved (as have been others, [illegible]) [illegible] the lack of sound data in the great majority [illegible] also, in the lack of speedy follow-up due primarily [illegible] and limited facilities of the APIS section [illegible] [illegible] of significant sightings discussed in [illegible] [illegible]:

Bellefontaine, Ohio (1 August 1952); Tremonton, Utah (2 July [illegible]); Great Falls, Montana (15 August 1950); Essex, Montana (1 September 1952); Washington, D. C. area (19 July 1952); and Kaneda A.F. [illegible], Japan (5 August 1952), Port Huron, Michigan (29 July 1952); and Presque Isle, Maine (20 October 1952).

After review and discussion of these cases (and about 15 other [illegible] in some detail), the Panel concluded that reasonable explanations could be suggested for most sightings and "by deduction and scientific [illegible] it could be induced (given additional data) that other cases might be explained in a similar manner". The Panel pointed out that because of the brevity of some sightings (e.g. 2-3 seconds) and the [illegible] of the witnesses [illegible] express themselves clearly (semantics) that conclusive explanations could not be expected for every case reported. Furthermore, it was considered that, normally, it would be a great waste of effort to try to solve most of the sightings, [illegible] such action would [illegible] a training and educational program (see below). The writings of Charles Fort were referenced to show

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[illegible], Ohio (1 August 1952); Tremonton, Utah (2 July [illegible]); Great Falls, Montana (15 August 1950); Yack, Montana (1 September [illegible]); Washington, D. C. area (19 July 1952); and Kaneda A.F.[illegible], Japan (5 August 1952); Port Huron, Michigan (29 July 1952); and Presque Isle, Maine (10 October 1952).

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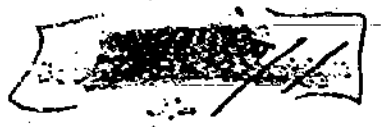

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that "strange things in the sky" had been recorded for hundreds of years. It appeared obvious that there was no single explanation for a majority of the things seen. The presence of radar and astronomical specialists on the Panel proved of value at once in their confident recognition of phenomena related to their fields. It was apparent that specialists in such additional fields as psychology, meteorology, aerodynamics, ornithology and military air operations would extend the ability of the Panel to recognize many more categories of little-known phenomena.

OF DEBT OF DANGER

The Panel concluded unanimously that there was no evidence of a direct threat to national security in the objects sighted. Instances of "Foo Fighters" were cited. These were unexplained phenomena sighted by aircraft pilots during World War II in both European and Far East theaters of operation wherein "balls of light" would fly near or with the aircraft and maneuver rapidly. They were believed to be electrostatic (similar to St. Elmo's fire) or electromagnetic phenomena or possibly light reflections from ice crystals in the air, but their exact cause or nature was never defined. Both Robertson and Alvarez had been concerned in the investigation of these phenomena, but David T. Griggs (Professor of Geophysics at the University of California at Los Angeles) is believed to have been the most knowledgeable person on this subject. If the term "flying saucers" had been popular in 1943 - 1945, these objects would

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[illegible] as labeled. It was interesting that in at least two cases [illegible] that the object sighted was categorized by Robertson and [illegible] as probably "Foo Fighters", to date unexplained but not dangerous; they were not happy thus to dismiss the sightings by calling them names. It was their feeling that these phenomena are not beyond the domain of present knowledge of physical science; however.

[illegible]

It was the Panel's opinion that some of the Air Force concern over U.F.O.'s (notwithstanding Air Defense Command anxiety over fast radar tracks) was probably caused by public pressure. The result today is that the Air Force has instituted a fine channel for receiving reports of nearly anything anyone sees in the sky and fails to understand. This has been particularly encouraged in popular articles on this and other subjects, such as space travel and science fiction. The result is the mass receipt of low-grade reports which tend to overload channels of communication with material quite irrelevant to hostile objects that might some day appear. The Panel agreed generally that this mass of poor-quality reports containing [illegible], if any, scientific data was of no value. Quite the opposite, it was possibly dangerous in having a military service foster public concern in "nocturnal meandering lights". The implication being, since the interested agency was military, that these objects were or might be potential direct threats to national security. Accordingly, the need for deemphasization made itself apparent. Comments on a possible educational program are enumerated below.

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It was the opinion of Dr. Robertson that the "saucer" problem [illegible] to be different in nature from the detection and investigation of German V-1 and V-2 guided missiles prior to their operational use in World War II. In this 1943-1944 intelligence operation (CROSSBOW), there was excellent intelligence and by June 1944 there was material evidence of the existence of "hardware" obtained from crashed vehicles in Sweden. This evidence gave the investigating team a basis upon which to operate. The absence of any "hardware" resulting from unexplained U.F.O. sightings lends a "will-of-the-wisp" nature to the ATIC problem. The results of their investigation, to date, strongly indicate that no evidence of hostile act or danger exists. Furthermore, the current reporting system would have little value in the case of detection of enemy attack by conventional aircraft or guided missiles; under such conditions "hardware" would be available almost at once.

[illegible]

It was interesting to note that none of the members of the Panel were loath to accept that this earth might be visited by extra-terrestrial intelligent beings of some sort, some day. What they did not find was any evidence that related the objects sighted to space travelers. Mr. Fournet, in his presentation, showed how he had eliminated each of the known and probable causes of sightings leaving him "extra-terrestrial" as the only one remaining in many cases. Fournet's background as an aeronautical engineer and technical intelligence

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[illegible] (Project Officer, [illegible] for 15 months) could not be [illegible]. However, the Panel could not accept any of the cases [illegible] by him because they were raw, unevaluated reports. Terrestrial explanations of the sightings were suggested in some cases and in others the time of sighting was so short as to cause [illegible] of visual impressions. It was noted by Dr. Goudsmit and [illegible] that extraterrestrial artifacts, if they did exist, are no [illegible] for alarm; rather, they are in the realm of natural phenomena subject to scientific study, just as cosmic rays were at the time of their discovery 20 to 30 years ago. This was an attitude in which Dr. Robertson did not concur, as he felt that such artifacts would be of immediate and great concern not only to the U. S. but to all countries. (Nothing like a common threat to unite peoples!) Dr. Page noted that present astronomical knowledge of the solar system makes the existence of intelligent beings (as we know the [illegible]) elsewhere than on the earth extremely unlikely, and the concentration of their attention by any controllable means confined to any one continent of the earth quite preposterous.

[illegible]

This case was considered significant because of the excellent documentary evidence in the form of Kodachrome motion picture films (about 1600 frames). The Panel studied these films, the case history, [illegible] interpretation, and received a briefing by representatives of the [illegible] Photo Interpretation Laboratory on their analysis of the [illegible]. This team had expanded (at Air Force request) approximately

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[illegible] of professional and sub-professional time in the preparation of graph plots of individual frames of the film, showing apparent and relative motion of objects and variation in their light intensity. It was the opinion of the P.I.L. representatives that the objects sighted were not birds, balloons or aircraft, were "not reflections because there was no blinking while passing through 60° of arc" and were, therefore, "self-luminous". Plots of motion and variation in light intensity of the objects were displayed. While the Panel Members were impressed by the evident enthusiasm, industry and extent of effort of the P.I.L. team, they could not accept the conclusions reached. Some of the reasons for this were as follows:

a. A semi-spherical object can readily produce a reflection of sunlight without "blinking" through 60° of arc travel.

b. Although no data was available on the "albedo" of birds or polyethylene balloons in bright sunlight, the apparent motions, sizes and brightnesses of the objects were considered strongly to suggest birds, particularly after the Panel viewed a short film showing high reflectivity of seagulls in bright sunlight.

c. P.I.L. description of the objects sighted as "circular, bluish-white" in color would be expected in cases of specular reflections of sunlight from convex surfaces where the brilliance of the reflection would obscure other portions of the object.

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d. Objects in the Great Falls case were believed to have probably been aircraft, and the bright lights such reflections.

e. There was no valid reason for the attempt to relate the objects in the Trenton sighting to those in the Great Falls sighting. This may have been due to misunderstanding in their directive. The objects in the Great Falls sighting are strongly suspected of being reflections of aircraft known to have been in the area.

f. The intensity change in the Trenton lights was too great for acceptance of the F.T.L. hypothesis that the apparent motion and changing intensity of the lights indicated extremely high speed in small orbital paths.

g. Apparent lack of guidance of investigators by those familiar with U.F.O. reports and explanations.

h. Analysis of light intensity of objects made from duplicate rather than original film. The original film was noted to have a much lighter background (affecting relative brightness of object) and the objects appeared much less bright.

i. Method of obtaining data of light intensity appeared faulty because of unsuitability of equipment and questionable assumptions in making averages of readings.

j. No data had been obtained on the sensitivity of Kodachrome film to light of various intensities using the same camera type at the same lens openings.

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[illegible] [illegible] (obtainable from early part of [illegible]) were not removed from the plots of the "single pass photo" at the end of the film.

[illegible] Fauck believed strongly that the data available on this sighting was sufficient for positive identification if further data [illegible] by photographing polyethylene "pillow" balloons released near the site under similar weather conditions, checking bird flight and radiation characteristics with competent ornithologists and calculating apparent [illegible] objects from their apparent [illegible]. It was considered that [illegible] of such tests would probably lead to creditable explanations of value in an educational or training program. However, the Fauck noted that the cost in technical manpower effort required to follow up and explain every one of the thousand or more reports received through channels each year ([illegible] in [illegible]) would not be justified. It was felt that there will always be sightings, for which complete data is lacking, that can only be explained with disproportionate effort and with a long time delay, if [illegible]. The long delay [illegible] tends to [illegible] [illegible] intelligence [illegible] [illegible] training program should [illegible] as a major purpose [illegible] popular feeling that every [illegible], no matter how poor the data, must be explained in detail. [illegible] should be directed to the requirement among scientists that [illegible], to be [illegible], must be completely and [illegible] documented. In other words, the burden of proof is on the sighting [illegible] [illegible].

[redacted]

[redacted]

[illegible]

[illegible] Panel Members were in agreement with O/SI opinion that, although evidence of any direct threat from these sightings was wholly lacking, related dangers might well exist resulting from:

a. Misidentification of actual enemy artifacts by defense personnel.

b. Overloading of [illegible] reporting channels with "false" information ("noise to signal ratio" analogy—Berkner).

c. Subjectivity of public to mass hysteria and greater vulnerability to possible enemy psychological warfare.

Although not the concerns of OTA, the first two of these problems may seriously affect the Air Defense intelligence system, and should be studied by experts, possibly under ADC. If U.F.O.'s become discredited in a reaction to the "flying saucer" scare, or if reporting channels are saturated with false and poorly documented reports, our capability of detecting hostile activity will be reduced. Dr. Page noted that more competent screening or filtering of reported sightings at or near the source is required, and that this can best be accomplished by an educational program.

[illegible] LOCATIONS OF [illegible]

The map prepared by ATIC showing geographic locations of officially reported unexplained sightings (1952 only) was examined by the Panel. This map showed clusters in certain strategic areas such as Los Alamos. This might be explained on the basis of 24-hour watchful guard and

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[illegible] security [illegible] near such locations. On the other hand, there had been no sightings in the vicinity of sensitive related AE establishments while there were occasionally multiple cases of unexplained sightings in non-strategic areas. Furthermore, there appeared to be no logical relationship to population centers. The Panel could find no ready explanation for these clusters. It was noted, however, that if terrestrial artifacts were to be observed it would be likely that they would be seen first near foreign areas rather than central U. S.

[illegible]

The Panel was of the opinion that the present ATIC program to place 100 inexpensive 35 mm. stereo cameras in the hands of various airport control tower operators would probably produce little valuable data related to U.F.O.'s. However, it was recognized that such action would tend to allay public concern in the subject until an educational program had taken effect. It was believed that procurement of these cameras was partly the result of public pressure in July 1952. With the poor results of the year-long Project [illegible] program of 24-hour instrumentation watch (two frames of film showing nothing distinguishable), a widespread program of sky-watching would not be expected to yield much direct data of value.

There was considerable discussion of a possible "sky patrol" by amateur astronomers (Hynek) and by wide-angle cameras (Page). Dr. Page and Dr. Robertson pointed out that at present a considerable fraction

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[illegible] for many years under surveillance [illegible] in several meteor and aurora observing programs as [illegible] programs at the various locations listed below. [illegible] the attention of these astronomers is largely directed [illegible] rather than unidentified objects, no case of any [illegible] unidentified object is known to Dr. Page or Dr. Hynek. Such an object would most certainly be reported if found on patrol plates.

[illegible] was cited where an astronomer refused to interrupt his [illegible] in order to photograph an alleged sighting in a different part of the sky. This led Dr. Hynek to say that, if a program of [illegible] could be an adjunct of planned astronomical programs, little [illegible] would be involved and that the trained astronomical personnel [illegible] photographs sighting of an unidentified object.

The location of some of these programs and their directors are believed to be:

a. Harvard University, Cambridge and New Mexico (meteor patrol)—Whipple.

b. Yerkes Observatory, University of Chicago and Fort Davis, Texas (several programs)—Meinel (aurorae), Kuiper (asteroids), Morgan (wide angle camera).

c. University of Alaska, Fairbanks (aurorae)—Elvey

d. Dominion Observatory, Ottawa (meteors)—Millman

e. Palomar Observatory, California (sky map)—Minkowski

f. Mick Observatory, California (sky map)—Shane

[redacted]

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It was agreed by the Panel that no government-sponsored program of optical nation-wide sky patrol is worthwhile at the present time, and that the encouragement of amateur astronomers to undertake such a program might have the adverse effect of over-emphasizing "flying saucer" stories in the public mind. However, the issue of radar-scope cameras for recording peculiar radar echoes would serve several purposes, including the better understanding of radar interference as well as identification of U.F.O.'s.

[illegible]

This characteristic problem of radar operation wherein the pulse signal (of approximately the same frequency) from station A may be picked up on the screen of station B and show as a high-speed track or series of dots was recognized to have probably caused a number of U.F.O. reports. This problem was underlined by information received indicating ADC concern in solving this problem of signal identification before service use of very high-speed aircraft or guided missiles ([illegible]). Dr. [illegible] believed that one answer to this problem was the use of a "doppler filter" in the receiving circuit. Dr. Alvarez suggested that the problem might be better solved by the use of a "controlled jitter" wherein the operator receiving "very fast tracks" (on the order of 1000- 10,000 m.p.h.) would operate a circuit which would alter slightly his station's pulse frequency rate. If the signal received on the screen had been caused by mutual interference with another station, the track would now show itself at a different distance

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[illegible] of the [illegible], if it still appeared at all. Dr. Alvarez [illegible] such a technical solution was simpler and would cost much less than [illegible].

[illegible]

Two reported cases were examined: one at Palomar Mountain, California, [illegible] 1949, when cosmic ray counters went "off scale for a few seconds" apparently while a "V" of flying saucers was observed visually; and two, a series of observations by the "Los Alamos Bird Watchers Association" from August 1950 to January 1951, when cosmic ray coincidence counters behaved [illegible]. Circuit diagrams and records were available for the latter, and Dr. Alvarez was able quickly to point out that the recorded data were undoubtedly due to instrumental effects that would have been recognized as such by more experienced observers.

The implication that radioactive effects were correlated with unidentified flying objects in these two cases was, therefore, rejected by the Panel.

[illegible] PROGRAM

The Panel's concept of a broad educational program integrating efforts of all concerned agencies was that it should have two major aims: training and "debunking".

The training aim would result in proper recognition of unusually [illegible] objects (e.g., balloons, aircraft reflections) as well as natural phenomena (meteors, fireballs, mirages, nostilucent clouds). Both visual and radar recognition are concerned. There would be many

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[redacted]

Ranks in each education from enlisted personnel to command and research personnel. Relative emphasis and degree of explanation of different programs would correspond to the categories of duty (e.g., radar operators; pilots; control tower operators; Ground Observer Corps personnel; and officers and enlisted men in other categories.) This training should result in a marked reduction in reports caused by misidentification and resultant confusion.

The "debunking" aim would result in reduction in public interest in "flying saucers" which today evokes a strong psychological reaction. This education could be accomplished by mass media such as television, motion pictures, and popular articles. Basis of such education would be actual case histories which had been puzzling at first but later explained. As in the case of conjuring tricks, there is much less stimulation if the "secret" is known. Such a program should tend to reduce the current gullibility of the public and consequently their susceptibility to clever hostile propaganda. The Panel noted that the general absence of Russian propaganda based on a subject with so many obvious possibilities for exploitation might indicate a possible Russian official policy.

Members of the Panel had various suggestions related to the planning of such an educational program. It was felt strongly that psychologists familiar with mass psychology should advise on the nature and extent of the program. In this connection, Dr. Hadley Cantril (Princeton University) was suggested. Cantril authored "Invasion from

[redacted]

[redacted]

[illegible], a study in the psychology of panic, written about the famous Orson Welles radio broadcast in 1939) and has since performed advanced laboratory studies in the field of perception. The names of Ben Mosquin (University of Michigan) and Leo Reston were mentioned as possibly suitable as consultant psychologists. Also, someone familiar with mass communication techniques, perhaps an advertising expert, would be helpful. Arthur Godfrey was mentioned as possibly a valuable channel of communication reaching a mass audience of certain levels. Dr. Lorimer suggested the U. S. Navy (ONR) Special Devices Center, Sands Point, L. I., as a potentially valuable organization to assist in such an educational program. The teaching techniques used by this agency for aircraft identification during the past war was cited as an example of a similar educational task. The Jam Handy Co. which made World War II training films (motion picture and slide strips) was also suggested, as well as Walt Disney, Inc. animated cartoons. Dr. Nynck suggested that the amateur astronomers in the U. S. might be a potential source of enthusiastic talent "to spread the gospel". It was believed that business clubs, high schools, colleges, and television stations would all be pleased to cooperate in the showing of documentary type motion pictures if prepared in an interesting manner. The use of true cases showing first the "mystery" and then the "explanation" would be forceful.

To plan and execute such a program, the Panel believed was no mean task. The current investigatory group at ATIC would, of necessity, have to be closely integrated for support with respect to not only the

[redacted]

[redacted]

[illegible]

[illegible] support, the operational program of [illegible] above might be required for a minimum of [illegible] the [illegible] Requirements from other military services and agencies [illegible] would be a [illegible]. In investigating significant cases (such as the [illegible]) [illegible]

[redacted]

[redacted]

[illegible] of "pillar balloons" at different distances [illegible] weather conditions at the site.

[illegible] of one or two psychologists and writers and a subcontractor [illegible] training [illegible] would be necessary in addition. The Panel [illegible] that ATIC's efforts, temporarily expanded as necessary, [illegible] useful in implementing any action taken as a result of [illegible] recommendations. Experience and records in ATIC would be of value in both the public educational and service training program envisaged. Dr. Robertson at least was of the opinion that after public gullibility lessened and the service organizations, such as ASC, had been trained to sift out the more readily explained spurious sightings, there would still be a role for a very modest-sized ATIC section to cope with the residuum of items of possible scientific intelligence value. This section should concentrate on energetically following up (perhaps on the advice of qualified Air Force Scientific Advisory Board members) those cases which seemed to indicate the evidence of unconventional enemy artifacts. Reports of such artifacts would be expected to arise mainly from Western outposts in far closer proximity to the Iron Curtain than Dubbock, Texas!

[illegible]

The Panel took cognizance of the existence of such groups as the "Canadian Flying Saucer Investigators" (Los Angeles) and the "Aerial Phenomena Research Organization (Wisconsin)". It was believed that such organizations should be watched because of their potentially

[redacted]

[redacted]

R. G. DURANT III

[redacted]

[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

[redacted]

[redacted]

[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Acme Edge
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

[redacted]

[redacted]

TAB B

[illegible] PANEL ON

UNIDENTIFIED FLYING OBJECTS

[illegible] - [illegible] January 19[illegible]

[illegible]

1. [illegible] case histories of sightings 1951 - 1952 (selected by [illegible] [illegible]).

2. [illegible] and Program Reports of Project GRUDGE and Project [illegible] ([illegible] study of subject).

3. [illegible] Reports of Project STORK ([illegible] for Battelle Memorial [illegible] [illegible] contract work supporting ATIC).

4. [illegible] Report of Sightings at [illegible] Air Force Base, New Mexico.

5. [illegible] of USAF Research Center, Cambridge, Mass., Investigation of [illegible] Phenomena (Project [illegible]).

6. [illegible] of Investigation of U.F.O.'s Proposed by Hartland Air Force [illegible] (Project [illegible]).

7. [illegible] Picture Value of Sightings at Tremonton, Utah, 2 July 19[illegible] [illegible] Great Falls, Montana, August 1950.

8. [illegible] Report of [illegible] cases of sightings of various [illegible] (Forecasting, Working Lights, Hovering, etc.).

9. [illegible] of manuals "How to Make a [illegible]", prepared at ATIC.

10. Chart Showing Plot of Geographic Location of Unexplained Sightings in the United States during 1952.

11. [illegible] Showing Balloon [illegible] Areas in the United States.

12. [illegible] Showing Selected Actual Balloon Flight Paths and Relation [illegible] Reported Sightings.

13. [illegible] Showing Frequency of Reports of Sightings, 1946 - 1952.

14. [illegible] Showing Categories of Explanations of Sightings.

15. [illegible] Transparencies of Polyethylene Film Balloons in Bright [illegible] Showing High [illegible].

[redacted]

[redacted]

TAB 1

[illegible]. [illegible] picture of [illegible] in [illegible] showing high reflectivity.

[illegible]. [illegible] Reports Relating to U.S.S.R. Interest in U. S. Sightings.

[illegible]. Samples of Official USAF Reporting Forms and Copies of Pertinent [illegible] Army and Navy Groups Relating to Subject.

[illegible]. Sample Polyethylene "Pillow" Balloon (5[illegible] inches square).

[illegible]. "Variations in Radar Coverage", JANP 101 (Manual illustrating unusual operating characteristics of Service radar).

[illegible]. Miscellaneous official letters and foreign intelligence reports dealing with subject.

[illegible]. Copies of popular published books dealing with subject (articles in periodicals, newspaper clippings and books).

[redacted]

(60)

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ROUTING AND RECORD SHEET

SUBJECT: (Optional)

FROM:

NO.

DATE

TO: (Officer designation, room number, and building)	DATE REC'D	DATE FWD'D	OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
1. EXEC			CWM	HB DS ~~EA~~ ~~FAC~~
2. Ch/ASD$			[illegible]	2. I have drafted a general reply which is attached. If it is ok. return to me for signature & mailing. CWM.
3. EXEC			CWM	
4. Ch, ASD (retention)				
5.				
6.				
7.				
8.				
9.				(1) Cw [illegible]
10.				
11.				
12.				
13.				
14.				

[illegible]

HB

FROM:	NO.
	DATE

TO: (Officer designation, room number, and building)	DATE REC'D	DATE FWD'D	OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
1. EXEC			CWM	
2. ch/ASD$				2. I have drafted a general reply which is attached. If it is ok, return to me for signature & mailing. CWM
3. EXEC			CWM	
4. Ch, ASD				
5. (retention)				
6.				
7.				
8.				
9.				(1) Congratulations [illegible]
10.				
11.				
12.				
13.				
14.				
15.				

FORM 1 DEC 55 610 USE PREVIOUS EDITIONS ☐ SECRET ☐ CONFIDENTIAL ☐ CIA INTERNAL USE ONLY ☐ UNCLASSIFIED

60

[illegible]

10 December 1956

Subject: Report of Unidentified Flying Object

1. During the observation of test 3010 at 0104Z, 8 December 1956, a red flare was sighted high in the eastern sky. This flare was a spot of reddish light with short tails of the same color protruding from each side of the spot to the south.

2. The flare appeared to be at 85,000 to 90,000 feet. Its track, at first sighting (Launch plus about one minute), was estimated to be some 10 - 12 miles out to sea from the writer's position three miles north of [illegible] Point Gate, and its course was due north. Speed was estimated to be 750-1000 miles per hour.

3. The missile altitude at about T plus 95 seconds appeared to be the same as the altitude of the flare.

4. The flare made a wide turn to the east immediately after the missile "passed" it (missile track appeared to be some 3 to 4 miles toward shore from the track of the flare), completing the turn about 8 to 10 seconds before burn-out of the missile.

5. Upon completion of the turn, the flare picked up a heading of 90 - 100 degrees and maintained this heading until out of sight of the writer at T plus 330 seconds.

6. As far as could be determined, the flare track did not vary in speed or altitude during the entire sighting.

7. On making the turn to the east, the two tails disappeared. Whether this was due to a change in attitude with relation to the observer, or due to increased distance from the observer, or due to a change in "power settings" (sic) is unknown.

8. Weather conditions were: ceiling and visibility unlimited.

9. Attention is called to a similar sighting described to the writer by Mr. Wayne [illegible]. Mr. [illegible] saw a flare with a similar flight path the night of the ill-fated Jupiter launch.

Subject: Report of Unidentified Flying Object

1. During the observation of test 3018 at 0104R, 8 December 1956, a red flare was sighted high in the eastern sky. This flare was a spot of reddish light with short tails of the same color protruding from each side of the spot to the south.

2. The flare appeared to be at 15,000 to 20,000 feet. Its track, at first sighting (Launch plus about one minute), was estimated to be some 10 - 12 miles out to sea from the writer's position three miles north of [illegible] Main Gate, and its course was due north. Speed was estimated to be 750-1000 miles per hour.

3. The missile altitude at about T plus 95 seconds appeared to be the same as the altitude of the flare.

4. The flare made a wide turn to the east immediately after the missile "passed" it (missile track appeared to be some 3 to 4 miles toward shore from the track of the flare), completing the turn about 8 to 10 seconds before burn-out of the missile.

5. Upon completion of the turn, the flare picked up a heading of 90 - 100 degrees and maintained this heading until out of sight of the writer at T plus 330 seconds.

6. As far as could be determined, the flare track did not vary in speed or altitude during the entire sighting.

7. On making the turn to the east, the two tails disappeared. Whether this was due to change in attitude with relation to the observer, or due to increased distance from the observer, or due to a change in "power settings" (sic) is undecided.

8. Weather conditions were: ceiling and visibility unlimited.

9. Attention is called to a similar sighting described to the writer by Mr. [illegible] [illegible]. Mr. Aldrich saw a flare with a similar flight path the night of the ill-fated Jupiter Launch.

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Copied From Nearly Illegible Original

Subj: Report of Unidentified Flying Object

10. The writer is an NSA employee, and the knowledge of the approximate launch time of the missile (test vehicle) was acquired in the normal course of his official activities.

11. The sighting was reported to the NSA Communications Coordinator, CCAFB, about 0120Z, 6 December 1956. It was also reported to the Officer of the Day, PAFB, at about 0140Z the same date. The O.D. advised that a written report should be filed on the next working day.

12. It is suggested that close study of the optical coverage films for the test will serve to confirm this report.

13. It appears that this report falls within the concern of CIRVIS as described by JANAP 146C.

J. P. Anderson

JPA:rt

Additional comments - 4 January 1957

See para 3 above - Missile at that time was 30 miles high, indicating that UFO was much closer to observer or was much higher and traveling at greater speed.
General comment - Altitude, speed and range statements in original report are result of reference by observer to known object; i.e., aircraft. This established in discussions with AF; no aircraft near at time of sighting, but observer's experience with aircraft apparently resulted in unconscious reference.
Winds at time of sighting - surface 90° varying to 140° at 10,000 feet.
Eliminated as possibilities -- aircraft, weather balloons. Elimination effected by AF.
Angle above horizon at first sighting -- approximately 25 degrees.
Horizontal angle traversed on northerly course -- approximately 60-65 degrees
" " " " easterly " -- " 40-45 "
See para 9 above - Observer has talked to two other men who saw UFO, no details obtained.
See para 12 above -- Study of most sensitive camera plates showed nothing.
PAFB - Patrick Air Force Base, Fla.
CCAAFB - Cape Canaveral Auxiliary Air Force Base, Fla.
Test 3018 - launch of Viking rocket (1st on Vanguard program).

[redacted]

ESE NR18 ROUTINE GR79 201407Z

[redacted]

CHGO CITE WA 21649

FROM SUPPORT [redacted]

CASE [redacted] (CLOSED)

[redacted]

ON BASIS OF YOUR CONVERSATION WITH ATIC X ATIC, WE INFORMED DCI'S X DCI'S OFFICE THAT DAVIDSON X DAVIDSON WOULD RECEIVE REPLY. DID YOU GET COPY OF LETTER TO DAVIDSON OR IF NOT X NOT HAVE YOU BEEN INFORMED THAT THE LETTER WAS IN FACT WRITTEN? WE WOULD LIKE TO CLOSE THIS OUT WITH SURE KNOWLEDGE THAT THE LETTER WAS WRITTEN. THANKS.

[redacted]

ESE TOT: 20/1420Z [redacted]

Copy in #[redacted]

APPROVED FOR RELEASE
DATE 24 Nov 78

D- (#99)

[redacted]

[redacted]

CHCO CITE WA 26258

[redacted] FROM SUPPORT [redacted]

CASE [redacted] (CLOSED)

[redacted]

AS WE INFORMED YOUR OFFICE THERE IS NO TRANSLATION AVAILABLE NOR IS THERE ANY RECORD AVAILABLE EXCEPT FOR WHAT YOU KNOW. DAVIDSON X DAVIDSON HAS BEEN APPROACHED BY [redacted] ATIC X ATIC AND THIS SAME MESSAGE WAS GIVEN HIM AGAIN. HE ASKED FOR IT IN WRITING WHICH [redacted] REFUSED TO DO. DAVIDSON THEN SAID HE WOULD WRITE TO ATIC X ATIC. WE ARE ALL RESIGNED TO MORE LETTERS BUT WE DO NOT THINK YOU SHOULD INJECT YOUR NAME INTO THE MATTER. HE HAS ALREADY RECEIVED A COUPLE OF LETTERS FROM ATIC, TWO FROM THE DCI'S X DCI'S OFFICE AND TWO VISITS FROM [redacted]

SUGGEST YOU SIMPLY IGNORE THE LETTER UNLESS IT WAS REGISTERED. IF THIS WAS THE CASE PLEASE ADVISE. OTHERWISE DON'T DO ANYTHING MORE ABOUT IT.

THIS COORDINATED WITH [redacted] AND [redacted]

19/29392

APPROVED FOR RELEASE
DATE 24 Oct 78

D- (#103)

[redacted]

ER 9-3325/a

C
O
P
Y

MAY 10 1957

[redacted]

Mr. Leon Davison
64 Prospect Street
White Plains, New York

Dear Mr. Davison:

On behalf of Mr. Dulles, may I acknowledge and reply to your letter of April 21.

We have found that the tape you mentioned was analyzed by another agency of the Government and understand that you will hear directly from that agency in the near future as to the nature of the recording.

Sincerely,

Sgd J. Arnold Shaw

J. Arnold Shaw
Assistant to the Director

O/DCI/JAShaw/rc/9 May 57
Distribution:
1 - Addressee
1 - OO/C thru AD/O
1 - JAS
1 - ER
1 - Reading

APPROVED FOR RELEASE
DATE 24 Jan 75

D-#75

ESW 0513355Z

[redacted]

VA CITE CHGO-8731

SCIENTIFIC [redacted]

Leon

REFER FLYING SAUCER LETTER DAVIDSON, CASE [redacted] COPY OF ATIC LETTER NOT X NOT RECEIVED HERE. I ACCORDINGLY CALLED COL. BAIRD AGAIN TODAY. HE ASSURES ME IT HAS GONE OUT AND COPY IS IN MAIL TO ME. HE SAYS HE RATHER EXPECTS FURTHER ENQUIRY FROM DAVIDSON. I AM NOT X NOT SURE I AGREE.

CH TOT:05/1355Z

ESW TOT:05/1356Z

APPROVED FOR RELEASE
DATE 24 Nov 78

SCIENTIFIC [redacted]

Leon

REFER FLYING SAUCER LETTER DAVIDSON, CASE [redacted] COPY OF ATIC LETTER NOT X NOT RECEIVED HERE. I ACCORDINGLY CALLED COL. BAIRD AGAIN TODAY. HE ASSURES ME IT HAS GONE OUT AND COPY IS IN MAIL TO ME. HE SAYS HE RATHER EXPECTS FURTHER ENQUIRY FROM DAVIDSON. I AM NOT X NOT SURE I AGREE.

CH TOT:03/1355Z

ESW TOT:03/1536Z

APPROVED FOR RELEASE
DATE 24 Nov 78

D-(#98)

DTG...2017392 [redacted]

[redacted]

WA CITE CHCO-9236

DEC 20 2 47 PM '57

SUPPORT [redacted] FROM [redacted]

RE WA-26258 X 26258 AND CASE [redacted] (CLOSED).

WE NEGLECTED TO MENTION IN CHCO-9228 X 9228 THAT OUR CONTACT WITH [redacted] LEON DAVIDSON X LEON DAVIDSON WAS PERSON-TO-PERSON. HE WAS IN CHICAGO FOR A SCIENTIFIC MEETING. DAVIDSON EXPLAINED THAT HE IS DOING AN ARTICLE FOR A SPACE MAGAZINE. HE WANTS THE TRANSLATION OF THE MESSAGE AND THE EMITTING STATION PROVING THE SPACE MESSAGE TO BE A HOAX, OR HE WANTS PERMISSION TO PICTURE GOVERNMENT LETTERHEADS, OURS AND ATIC'S X ATIC'S, IN HIS ARTICLE SHOWING GOVERNMENT AVOIDANCE OF HIS INQUIRIES. HE EXPLAINED THAT HE HAD RECEIVED NO X NO SATISFACTORY ANSWER TO HIS REQUEST OF US AND ATIC X ATIC IN NEARLY A YEAR. [redacted] TOLD DAVIDSON HE WOULD COMMUNICATE WITH HIM SHORTLY SUPPLYING THE INFORMATION HE REQUESTED IF POSSIBLE, OR EXPLAINING THAT NOTHING FURTHER COULD BE DONE. RE DAVIDSON'S WISH TO USE GOVERNMENT LETTERHEAD IN EVENT HE CANNOT GET MESSAGE TRANSLATION, [redacted] ADVISED THIS WOULD BE IMPRUDENT AND SUGGESTED HE NOT X NOT DO IT WITHOUT THE EXPRESS PERMISSION OF THE AGENCIES CONCERNED. DAVIDSON AGREED THIS WAS BEST. DAVIDSON WAS CALM AND PLEASANT BUT VERY DETERMINED. IN VIEW OF YOUR WA-26258 X 26258 WE WISH TO BOW OUT OF THIS THING, BUT URGE THAT HEADQUARTERS, [redacted] AND ATIC X ATIC CONCERN THEMSELVES WITH THIS MAN AND TRY TO SATISFY HIM. PLEASE DO NOT X NOT LET US DOWN ON OUR AGREEMENT TO

SUPPORT [redacted] FROM [redacted]

RE WA-26258 X 26258 AND CASE [redacted] (CLOSED).

WE NEGLECTED TO MENTION IN CHGO-9220 X 9220 THAT OUR CONTACT WITH LEON DAVIDSON X LEON DAVIDSON WAS PERSON-TO-PERSON. HE WAS IN CHICAGO FOR A SCIENTIFIC MEETING. DAVIDSON EXPLAINED THAT HE IS DOING AN ARTICLE FOR A SPACE MAGAZINE. HE WANTS THE TRANSLATION OF THE MESSAGE AND THE EMITTING STATION PROVING THE SPACE MESSAGE TO BE A HOAX, OR HE WANTS PERMISSION TO PICTURE GOVERNMENT LETTERHEADS, OURS AND ATIC'S X ATIC'S, IN HIS ARTICLE SHOWING GOVERNMENT AVOIDANCE OF HIS INQUIRIES. HE EXPLAINED THAT HE HAD RECEIVED NO X NO SATISFACTORY ANSWER TO HIS REQUEST OF US AND ATIC X ATIC IN NEARLY A YEAR. [redacted] TOLD DAVIDSON HE WOULD COMMUNICATE WITH HIM SHORTLY SUPPLYING THE INFORMATION HE REQUESTED IF POSSIBLE, OR EXPLAINING THAT NOTHING FURTHER COULD BE DONE. RE DAVIDSON'S WISH TO USE GOVERNMENT LETTERHEAD IN EVENT HE CANNOT GET MESSAGE TRANSLATION, [redacted] ADVISED THIS WOULD BE IMPRUDENT AND SUGGESTED HE NOT X NOT DO IT WITHOUT THE EXPRESS PERMISSION OF THE AGENCIES CONCERNED. DAVIDSON AGREED THIS WAS BEST. DAVIDSON WAS CALM AND PLEASANT BUT

VERY DETERMINED. IN VIEW OF YOUR WA-26258 X 26258 WE WISH TO BOW OUT OF THIS THING, BUT URGE THAT HEADQUARTERS, [redacted] AND ATIC X ATIC CONCERN THEMSELVES WITH THIS MAN AND TRY TO SATISFY HIM. PLEASE DO NOT X NOT LET US DOWN ON OUR AGREEMENT TO COMMUNICATE WITH HIM. WE ARE COMMITTED.

CH TOT120/1750Z

ESW TOT120/1941Z

APPROVED FOR RELEASE
DATE 24 Jan 78

#105

20 DEC 1957

Dr. H. P. Robertson
Chairman, Defense Science Board
Department of Defense
Room 3E1027, The Pentagon
Washington 25, D. C.

Dear Bob:

With reference to our prior conversation on Unidentified Flying Objects, there is enclosed for your information a copy of a letter to the Air Force together with the declassified version of the Panel Report.

Very sincerely,

Philip G. Strong
Deputy Assistant Director

Attachments:
1 - Letter to Air Force (S)
1 - Declassified Panel Report (U)

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(72)

CENTRAL INTELLIGENCE AGENCY
WASHINGTON 25, D. C.

release

[illegible] Nov 1957

Dr. Lloyd V. Berkner
President
Associated Universities, Incorporated
Room 6920
350 Fifth Avenue
New York 1, New York

Dear Lloyd:

You will recall in January 1953, we constituted a Scientific Advisory Panel on Unidentified Flying Objects with Drs. H. P. Robertson as Chairman, Samuel Goudsmit, Luis W. Alvarez, Thorton Page, and yourself as members. After its deliberation, the Panel reached two conclusions and made two recommendations which were included as Tab A of the report. Very recently, the Air Force has requested that the conclusions of this report be declassified so that they may be used in the press. A copy of the report is enclosed herewith for your information.

I have discussed this matter with Dr. Robertson and Dr. Goudsmit who agree that the conclusion contained in paragraph 2 and the recommendation contained in paragraph 4a can be declassified. But, they, as well as this Agency, will not agree to a declassification of the conclusion in paragraph 3 or the recommendation in paragraph 4b. It is our feeling that the association of the Panel with this Agency should not be disclosed; that paragraph 1 could be rewritten to eliminate this connection; and that the final six lines of paragraph 4 can stand as written.

I have queried the Air Force as to whether the names of the Panel members would be used. They have replied that names would be used only within official circles and would not be given to the press. But, as such information has a tendency at times to filter out, it should be recognized that, if approval is given for use of the names, they may well become common knowledge.

Dr. Lloyd V. Berkner
President
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Room 6920
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It would be very much appreciated if you could let me know as soon as possible what your reaction is to the Air Force declassification proposal; whether you agree with Dr. Robertson, Dr. Goudsmit and myself on limiting any declassification; and whether you would approve or disapprove the use of your name, granted that Agency connection with the Panel is withheld.

Very best regards.

Sincerely,

Phil

Philip G. Strong
Deputy Assistant Director

b3

Enclosure
UFO Report (Secret)

CASE [redacted] (CLOSED).

RE DR LEON DAVIDSON X LEON DAVIDSON [redacted]

DR LEON DAVIDSON IS ON OUR BACKS AGAIN. HE WANTS A VERBATIM TRANSLATION OF THE "SPACE" MESSAGE AND THE IDENTIFICATION OF THE TRANSMITTER FROM WHICH IT CAME. YOUR ATTENTION IS CALLED TO [redacted] LETTER TO DAVIDSON FROM WALLACE W ELWOOD X WALLACE W ELWOOD, CAPTAIN, USAF X USAF, ATIC X ATIC, DATED 5 X 9 AUGUST 1957 X 1957, IN WHICH ELWOOD TELLS DAVIDSON THE MESSAGE WAS IN IDENTIFIABLE MORSE CODE AND FROM A KNOWN US X US LICENSED RADIO STATION. THIS WAS INTENDED TO SATISFY DAVIDSON THAT HE DID NOT X NOT IN FACT HAVE A SPACE MESSAGE. HE IS NOT X NOT SATISFIED AND EXPLAINS THAT THE CHARACTERISTICS OF THE SOUNDS ON THE TAPE RECORDING OF THE MESSAGE ARE NOT X NOT MORSE-TYPE. CAN YOU OBTAIN FROM ATIC THE MESSAGE TRANSLATION, AND THE TRANSMITTER, SHORTLY? WE'D LIKE TO DISMISS THIS MAN ONCE AND FOR ALL. IF YOU CANNOT OBTAIN THIS INFORMATION, DAVIDSON IS GOING TO PRESSURE US FOR PERMISSION TO USE CHICAGO OFFICE LETTERHEAD AND OTHER US X US GOVERNMENT LETTERHEAD HE HAS RECEIVED IN THIS MATTER IN AN ARTICLE FOR SOME SPACE MAGAZINE. WE ARE SENDING BY BUCASLIP THIS DATE A PUBLICATION OF DAVIDSON'S CRITICIZING THE AIR FORCE FOR CONCEALMENT OF INFORMATION ON FLYING SAUCERS. INCIDENTALLY, DAVIDSON IS NO X NO FOOL AND IT APPEARS THAT ATIC IS TREATING HIM AS ONE IF THEY THINK HE CAN BE SATISFIED WITH A SOP SUCH AS CAPTAIN ELWOOD'S.

[redacted]

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APPROVED FOR RELEASE
DATE 24 Nov 78

D- (#102)

INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

[redacted]

COUNTRY	[illegible] (Azerbaydzhan)/Iran	REPORT NO.	CS-3,325,4[illegible]7
SUBJECT	Unidentified Flying Object Observed on Iran/USSR Border	DATE DISTR.	13 August 1957
		NO. PAGES	1
		REQUIREMENT NO.	RO
		REFERENCES	
DATE OF INFO.	12 June 1957		
PLACE & DATE ACQ.	[redacted]		
SOURCE	[redacted]		

On 12 June at 11:00 a.m. local time, a flying object was seen from Iranian Julfa [N 3[illegible]-55, E 45-3] travelling on a course from Nakhichevan [N 39-15, E 45-25] to Baku, USSR. The object appeared to be a ball about one-half meter in diameter and had a tail one-half meter in length. It travelled at high speed at a height of about 2,000 feet and was visible for only a few seconds. The smoke trail left by the object drifted over Iranian Julfa from the USSR and consisted of a trail about 5 or 10 centimeters in diameter.

Field Comment: [redacted] also reported seeing a flying object at the same time and described it as being about the size of a football and moving at a height of 2,000 meters. He said the smoke track left behind the object was visible for about 15 minutes.

[redacted]

STATE | X | ARMY | X | NAVY | X | AIR | X | FBI | | AEC

[redacted]

INFORMATION REPORT INFORMATION REPORT

[illegible] FOR RELEASE
DATE 6 Nov 78

Iranian Border

NO. PAGES 1

REQUIREMENT NO. RD

REFERENCES

DATE OF INFO 12 June 1957

PLACE & DATE ACQ. [redacted]

SOURCE [redacted]

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Field Comment: [redacted] also reported seeing a flying object at the same time and described it as being about the size of a football and moving at a height of 2000 meters. He said the smoke track left behind the object was visible for about 15 minutes.

[redacted]

STATE	X	ARMY	X	NAVY	X	AIR	X	FBI	AEC			

[redacted]

INFORMATION REPORT INFORMATION REPORT

[redacted]

D - #56

(80)

(132)

20 DEC 1957

Dr. Luis W. Alvarez
University of California
at Berkeley
Berkeley, California

Dear Dr. Alvarez:

With reference to our prior conversation on Unidentified Flying Objects, there is enclosed for your information a copy of a letter to the Air Force together with the declassified version of the Panel Report.

Very sincerely,

Philip G. Strong
Deputy Assistant Director

Attachments:
1 - Letter to Air Force (S)
2 - Declassified Panel Report (U)

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80

[redacted]

Chief, Chicago Office

10 May 1957

Chief, Contact Division (Support)

[redacted]

Case [redacted]

1. Attached is a memorandum from OSI relating to their attempts to recover the analysis of the tape. Also attached is a memorandum to the DCI and a suggested letter for him to send to Mr. Davidson. We have learned that this suggested form was acceptable and is being mailed.

2. Will you please advise Air Force of the action taken and ask them to follow through. It might be well to have a copy of the letter which they send to Davidson for our files.

3. Comment was made about the [redacted]

[redacted]

Attachment

[redacted]

cc: Index

[redacted]

APPROVED FOR RELEASE
DATE [illegible]

#94

(78)

[redacted]

FOI DOCUMENT
CONTROL No. C-66

CENTRAL INTELLIGENCE AGENCY
WASHINGTON 25, D. C.

20 DEC 1957

Dr. Lloyd V. Berkner
President
Associated Universities, Incorporated
Suite 1750, Coliseum Tower
10 Columbus Circle
New York 19, New York

Dear Lloyd:

With reference to our prior conversation on Unidentified Flying Objects, there is enclosed for your information a copy of a letter to the Air Force together with the declassified version of the Panel Report.

Very sincerely,

Phil

Philip G. Strong
Deputy Assistant Director

B3

Attachments:
1 - Letter to Air Force (S)
1 - Declassified Panel Report (U)

Reg # 251102

85656

Placed in file
Feb 1961

20 DEC 1957

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President
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Suite 1750, Coliseum Tower
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Deputy Assistant Director

BS

Attachments:
1 - Letter to Air Force (S)
1 - Declassified Panel Report (U)

Reg # 281100

85656

Returned for file on destruction 20 Feb 1961

[redacted]

FORM NO. 520
1 NOV 55

78

[redacted]

AUI DOCUMENT
CONTROL No. C-67
of 1 Pages Number 1 of
1 Copies Series —

20 DEC 1957

MEMORANDUM FOR: Assistant Chief of Staff, Intelligence
Department of the Air Force

ATTENTION : Major James F. Byrne
AFCIN-X1A

SUBJECT : Declassification of the "Report of the Scientific Panel on Unidentified Flying Objects"

1. We have just received the final letter from the members of the above Panel concerning your request for declassification of the above report. Both CIA and all members of the Panel have agreed that the conclusions of paragraph 2. can be declassified and that Recommendation 4.a. can be declassified. However, it is the decision of all concerned that no connection with CIA may be disclosed, that the conclusion of paragraph 3. may not be declassified and that the recommendation of 4.b. may not be declassified. On the basis of the above declassification, no member of the Panel objects to the use of his name in connection with the declassified conclusion and recommendation.

2. In order to simplify your utilization of the declassified material, I am attaching hereto a revised version of the report of the Panel which consists of a paraphrase of paragraph 1, the exact wording of paragraph 2, a new paragraph 3 which includes the declassified Recommendation 4.a. and an appropriate paraphrasing of the balance of paragraph 4 less Recommendation 4.b.

3. I trust that this will serve the purposes of this request.

B 3

Philip G. Strong
Deputy Assistant Director

cc: Members of Panel

[redacted]

REPORT OF THE SCIENTIFIC PANEL
ON
UNIDENTIFIED FLYING OBJECTS

17 January 1953

1. The undersigned Panel of Scientific Consultants has met at the request of the Government to evaluate any possible threat to national security posed by Unidentified Flying Objects ("Flying Saucers"), and to make recommendation. The Panel has received the evidence as presented by cognizant Governmental agencies, primarily the United States Air Force, and has reviewed a selection of the best documented incidents.

2. As a result of its considerations, the Panel concludes:

That the evidence presented on Unidentified Flying Objects shows no indication that these phenomena constitute a direct physical threat to national security.

We firmly believe that there is no residum of cases which indicates phenomena which are attributable to foreign artifacts capable of hostile acts, and that there is no evidence that the phenomena indicate a need for the revision of current scientific concepts.

3. In the light of this conclusion, the Panel recommends:

That the national security agencies take immediate steps to strip the Unidentified Flying Objects of the special status they have been given and the aura of mystery they have unfortunately acquired.

We suggest that this aim may be achieved by an integrated program designed to reassure the public of the total lack of evidence of inimical forces behind the phenomena.

/s/ Lloyd V. Berkner
Associated Universities, Inc.

/s/ H. P. Robertson, Chairman
California Institute of Technology

/s/ S. A. Goudsmit
Brookhaven National Laboratories

/s/ Luis W. Alvarez
University of California

/s/ Thornton Page
Johns Hopkins University

KR - 9 - 4255
Copy 3 of 3

11 June 1957

MEMORANDUM FOR: [redacted]

THROUGH: [redacted]

SUBJECT: Unidentified Flying Saucers (UFO)

1. In our discussion on UFO you asked three questions which for convenience I am using as side-headings below:

HAS THE RESPONSIBILITY FOR FOLLOWING UFO BEEN TRANSFERRED FROM THE AIR FORCE TO CIA? No. The Air Force and CIA are both still following UFO.

WHO IN CIA IS RESPONSIBLE FOR UFO? The DD/I/OSI, Phil Strong, specifically.

WHAT IS CIA DOING ON UFO?

The following is a brief sketch of activity which I obtained from Phil Strong's memory: Five years ago in the summer of 1952, OSI undertook a study of UFO by IAC action. OSI formed a panel consisting of the following members:

Lloyd Berkner, President, Association of Universities; President, International Council of Scientific Boards; Member of the President's Scientific Advisory Committee, (ODM).

H. P. Robertson, Chairman, Physics Dept., Cal Tech; once WSEG Civilian Director; Science Advisor to SHAPE Commander for two years, OSI Consultant.

Sam Goudsmit, Chairman, Department of Physics, Brookhaven National Laboratory; formerly member Combined Scientific and Military Team during post-war period examining German nuclear program.

D - #97

[redacted]

APPROVED FOR RELEASE
DATE 24 Jan 78

Luis Alvarez, one of country's top physicists at Berkeley, also at Los Alamos, [illegible] Canadians have a very sensitive project in this field. Apparently the Canadians run the project which has [illegible] Thorton Page, John Hopkins University. [illegible] states that he [illegible] the prototype. [illegible] the saucer as "just that" is [illegible] with [illegible] The Air Force and Navy (including the Navy's PIC) supported the study. Phil says the report was extremely thorough and was distributed to the IAC. (Copy attached, a [illegible] the last two pages contain the summary.) [illegible] a jointly-owned British and Canadian outfit. According to [illegible], the [illegible] 2. Since the study was made (17 January 1953), OSI has maintained a watching process on UFO. Although very few reports are received, those which do appear are examined by the following units: If concerning natural phenomena, they are turned over to the Geo-Physics Unit of the Fundamental Sciences Division in OSI. If they concern the hardware aspects of flying craft, they are turned over to the former Weapons Unit concerned with aircraft in the Applied Science Division of OSI. Gen. Watson, ATIC, (Phil Strong believes) maintains one or two officers following the UFO question. This ATIC effort is all that is left of an earlier, larger Air Force Project called "Blue Book." (Copy of Project report dated 5 May 1955 is attached, - conclusions are on p. 94). Concerning take on this question, Phil states that very little comes in and that nothing has been received of importance. Two or three years ago [redacted] reported seeing a flying saucer in vertical take-off in the Soviet Caucasus, but nothing was developed by intelligence. (Analysis of this case is attached.) This incident is the only "flap" that Phil can remember.

3. I asked Phil point-blank if the unexplained category could include actual secret Soviet advanced aeronautical equipment. He replied, "Conceivably, yes." However, speaking from memory he felt that the possibility existed that if further information was obtainable, the remaining small percentage of unknowns might be explained.

4. I also asked Phil point-blank if there was any special collection going on against UFO targets. He replied that there was no collection as such but that radical aeronautical design advances not limited to flying saucer types was a high priority collection requirement. In this regard he added that OSI has no information concerning new Soviet design which would indicate possible construction of flying saucer type aircraft. The Applied Sciences Division of OSI and ATIC work closely together in following radical new designs and advances by the Soviets.

[redacted]

5. For your information I learned from Hoverton and Strong that the British and Canadians have a very sensitive project in this field. Apparently the Canadians run the project which has completed the design of a flying saucer. Hoverton states that he has seen the prototype. Hoverton describes the saucer as "just that" in shape with jets on the circumference. The jets are in vertical position for take-off and are shifted horizontally for forward movement. Strong, speaking from memory, believed the design called for operations at 60,000 feet or better. The responsible aircraft company is the Avirl, a jointly-owned British and Canadian outfit. According to Strong, the USAF initially provided some of the funds, but is no longer doing so. Hoverton advised that the Air Force has "some projects" along this line.

[redacted]

Office of the Director
Planning and Coordination Staff

PCS/DCI [redacted]

0 - [redacted]
1 - File
1 - Chrono

[redacted]

(66)

[redacted]

?

31 July 1957

MEMORANDUM FOR: Deputy Director for Coordination ?

SUBJECT: Flying Saucers

1. As a result of your telephone call of July 8th, Dr. Chamberlain, Chief of the Fundamental Science Division, at my request contacted Dr. M. K. Jessup at the Physical Sciences Integration Committee. Dr. Chamberlain discussed with Mr. Jessup the two subjects you mentioned as of interest to him, i.e., meteor study in Mexico and flying saucers. In regard to the first, Mr. Jessup indicated that he felt the Agency would have little interest in the matter and that he, himself, was concerned primarily with securing financing to further his exploration work in Mexico. b3

2. In regard to flying saucers, Dr. Jessup referred us to Mr. Wayne Aho and through the Office of Operations we arranged to have a meeting with Mr. Aho which was attended by two specialists from this Office - Mr. Herbert Bowers of Applied Science Division, who covers aircraft for us, and Mr. Wilson Angle of our Fundamental Science Division, who is a geophysicist. For your information, I am attaching hereto a copy of the report to me of the conversation with Mr. Aho. Also, of possible interest, is a clipping of George Dixon's column in the Washington Post of 26 July concerning Mr. Aho. b3 b3

(3)(3)

3. We feel that we have nothing to gain in further follow-up in this matter and I am passing the information along to you solely because of Mr. Aho's connection with Dr. Jessup.

PHILIP G. STRONG
Deputy Assistant Director/Collection
Scientific Intelligence

b3

Attachments:
1-Memo of conversation with Mr. Aho
2-Clipping of George Dixon's column

Distribution:

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Deputy Assistant Director/Collection
Scientific Intelligence] b3

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Distribution:
Orig. & 1 - Addressee
1 - FSD
1 - DAD/C
[OSI/PG Stron/ebb/30 July 57] [illegible] b3

66

(67)

[redacted]

[redacted]

Copy 5 of 30 cys

[redacted]

21 September 1957

MEMORANDUM FOR: Acting Director, Central Intelligence

SUBJECT : Unidentified Flying Object Reported on 20 September 1957

1. As reported by components of the US Air Defense Command, an unidentified flying object (UFO) was tracked by US radars on a relatively straight course from the eastern tip of Long Island to the vicinity of Buffalo. The object was reportedly moving westward at an altitude of 50,000 feet and speed of 2,000 kts. "Jamming" was reported by several radars in this vicinity and westward as far as Chicago. In a subsequent briefing for representatives of the IAC, the US Air Force reported that the original reports had been degraded somewhat by information that: (a) there was an 11 minute break in the track; (b) weather conditions in the area were of the type which have in the past produced false radar-pips and electronic interference; (c) B-47's of SAC were in the area near Chicago on an ECM training flight. The ADC has not completed its investigation of this incident, but in any event it now seems clear that the phenomena reported west of Buffalo were not related to the UFO.

2. We have no intelligence on Soviet activities (e.g., long-range air, submarine, or merchant shipping operations) which can be related specifically to this reported event. We believe it unlikely that a Soviet aircraft could conduct a mission at this speed and altitude and return to Bloc territory. However, we credit the USSR with the capability to have a submarine-launched cruise-type missile of low performance and a range of about 500 n.m., but we have no specific evidence of the existence of such a missile.

3. We have examined possible Soviet motives for launching a one-way vehicle on an operation over the US, and consider that there would be little motivation at this time, except possibly a psychological or retaliatory motive, which we believe is marginal. One-way reconnaissance operations are largely ruled out by the likelihood that the results would be of small value, and the risk of compromise would be very great.

[redacted]

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[redacted]

67

[redacted] [redacted]

4. We conclude, therefore, that it is highly improbable that a Soviet operation is responsible for the UFO reports of 20 September.

5. Considering the facts that the ADC investigation is incomplete, and that weather phenomena are increasingly likely explanations of the original reports, we recommend that no IAC meeting be called on this subject at this time.

Herbert Scoville, Jr.

HERBERT SCOVILLE, Jr.

Copies to IAC Agencies as follows:

AEC	1
ONI	3
FBI	1
JIG	2
ARMY	3
AIR FORCE	3
STATE	3
CIA	5

[redacted] [redacted]

STANDARD FORM NO. 64

Office Memorandum · UNITED STATES GOVERNMENT

TO : AD/SI

DATE: 26 October 1957

FROM : [DAD/C/SI]

b3

SUBJECT:

Robertson called to tell me that Air Force had approached him for permission to declassify the conclusions of the "Report of the Scientific Panel on Unidentified Flying Objects", which OSI organized in January 1953. The request had come to Robertson from Maj. James F. Byrne of AFCIN-X1A (ext. 74903). I told Robertson we would examine the matter and Maj. Byrne should contact me directly. I will take the necessary action on this on my return.

[P. G. S.]

b3

FROM: [DAD/C/SI]

b7

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[P. G. S.]

b3

70

[redacted]

12 Dec 57

: Chief, De

[redacted]

Case [redacted]

1. On 10 Dec 57 I returned the five photographs of flying saucers which were obtained from [redacted]

2. [redacted] asked if it would be possible for us to submit to his any evaluations which might have been made on these photographs and I replied that it was very doubtful but that I would pass on the request to headquarters. [redacted] explained that he was attempting to set up a TV show to brief the public that if and when they ever see any U.F.O.'s to call him and if possible take a photograph of the object so that he would be able to keep the public abreast of the latest developments.

3. He then asked me if it would be possible for him to mention on the program that an intelligence organization had viewed the photographs and thought they were of interest. My immediate reply was in the "negative". This was accepted graciously by [redacted]

4. [redacted] then asked me if he could write a letter to the "Director" asking his opinion as to the evaluation of the photos and to ask his permission to present this material on TV. I told him that I could not advise him about writing or not writing a letter but that he as a US citizen, interested in U.F.O.'s would have to make his own decision. With this, the interview was completed.

5. This memo is being forwarded for any iterest it may have and to prevent any repercussions or flaps.

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[redacted]

[redacted]

[redacted]

[redacted]

APPROVED FOR RELEASE
DATE 24 Nov 78

D-#101

[redacted] 7 November 1957

THRU : Chief, [redacted] Office

[redacted]

Case [redacted] - Photographs and Background on Unidentified Flying Object Seen by Ralph L. Mayher.

1. In accordance with telephone request made by [redacted], on 6 Nov 57 we obtained from [redacted] certain photographs [redacted] of an unidentified flying object. The photographs are forwarded herewith and may be retained for 30 days.

2. The print marked "A" is an enlarged photograph of the original 16 mm movie strip on which Mr. Mayher took the photos in 1952. The size of the UFO may be gauged in relation to the perforations on the film which are of known standard size. The large print marked "B" is an outsized enlargement made from a stepped up negative of one of the original frames.

3. It may be of interest to know how the enclosed prints were processed. Pictures were originally snapped on 16 mm movie film from which a number of prints were made. Four by 5 negatives were processed from these prints, then 8 by 10 negatives were processed from the latter. The three 8 by 10 prints are contact prints of the 8 by 10 negatives. The large print, "B", is a blow-up of one of the 8 by 10 negatives.

4. Background information follows:

5. Camera used was a 16 mm movie, focal length of lens was 63 mm, speed 24 frames per second. Altitude of the UFO, as estimated by source and other observers, was two thousand feet. Maximum camera angle was estimated by source to be 45°. The UFO appeared to have the shape of a saucer, i.e., a rotating oblate spheroid which seemed to flatten out as speed increased. The UFO was in view for about three minutes and was of a bright orange color. At the time the film was taken the lens aperture of the camera was f:2.7. Film emulsion was fast panchromatic. Time elapsed between photographing the first image and the sixth image (the first being the smallest at the top of the film strip) was approximately .25 sec.

6. [redacted] indicated that he would be glad to make such negatives as he has available on a two weeks loan if they would serve a useful purpose. The original negatives are in Air Force hands.

[redacted]

1. In accordance with telephone request made by [redacted], on 6 Nov 57 we obtained from [redacted] certain photographs [redacted] of an unidentified flying object. The photographs are forwarded herewith and may be retained for 30 days.

2. The print marked "A" is an enlarged photograph of the original 16 mm movie strip on which Mr. Mayher took the photos in 1952. The size of the UFO may be gauged in relation to the perforations on the film which are of known standard size. The large print marked "B" is an outsized enlargement made from a stepped up negative of one of the original frames.

3. It may be of interest to know how the enclosed prints were processed. Pictures were originally snapped on 16 mm movie film from which a number of prints were made. Four by 5 negatives were processed from these prints, then 8 by 10 negatives were processed from the latter. The three 8 by 10 prints are contact prints of the 8 by 10 negatives. The large print, "B", is a blow-up of one of the 8 by 10 negatives.

4. Background information follows:

5. Camera used was a 16 mm movie, focal length of lens was 63 mm, speed 24 frames per second. Altitude of the UFO, as estimated by source and other observers, was two thousand feet. Maximum camera angle was estimated by source to be 45°. The UFO appeared to have the shape of a saucer, i.e., a rotating oblate spheroid which seemed to flatten out as speed increased. The UFO was in view for about three minutes and was of a bright orange color. At the time the film was taken the lens aperture of the camera was f:2.7. Film emulsion was fast panchromatic. Time elapsed between photographing the first image and the sixth image (the first being the smallest at the top of the film strip) was approximately .25 sec.

6. [redacted] indicated that he would be glad to make such negatives as he has available on a two weeks loan if they would serve a useful purpose. The original negatives are in Air Force hands. [redacted]

APPROVED FOR RELEASE
DATE 24 Nov 75

D-(#100)

[redacted]

8 MAY 1957

MEMORANDUM FOR: Assistant to the Director

ATTENTION: Mr. [redacted]

SUBJECT: Leon Davidson Letter to the DCI

1. Attached is a suggested reply to Mr. Davidson. We have ascertained that the recording in question was forwarded to CSI and found to be Morse code of US origin.

2. Arrangements have been made with ATIC for a letter to be sent by them to Mr. Davidson explaining that they have found the report and telling him what the findings were.

3. [redacted]

SIGNED: [redacted]

Deputy Assistant Director for Operations

Attachment

CD/OO - [redacted] - 8 May 1957

Distribution:
Addressee - Orig. & 1
OO - 2
CD/OO - 5
Stayback - 1

CD/OO copies:
Chf., CD/OO - 1
Case [redacted]
Index - 1
F/C - 1
Sup. Br. chrono - 1

[redacted]

APPROVED FOR RELEASE
DATE: 24 Jan 78

#93

Mr. Leon Davidson
64 Prospect Street
White Plains, New York

Dear Mr. Davidson,

Reference is made to your 21 April 1957 letter addressed to Mr. Dulles. A survey of the intelligence community has resulted in the determination that the tape in question was analyzed by another agency of the government. We believe that you will receive another communication shortly from the Air Force which will answer your query as to the nature of the recording.

Yours truly,

J. Arnold Shaw
Assistant to the Director

198

[redacted]

Deputy Assistant Director, Collection/I 25 July 1957

[redacted]

Interview with [redacted] on the subject of Unidentified Flying Objects

1. [redacted] in appearance and actions, is a very average sort of person. He has no prominent features. His height is about 5'9"; weight about 150 - 160 pounds. His complexion is slightly sallow. He was born and raised in the Pacific northwest and spent most of his adult life in the lumber business at Oakland, California. He served in WWII as an intelligence officer for the 197 A. A. Battalion, advancing from private to major. During the interview [redacted] was very calm and relaxed at all times and talked with an earnest belief in what he had to say.

2. [redacted] explained that he has powers of extrasensory perception, brought about by a conditioning of the mind, which permit him to see and sense things about him of which others without this power are unaware. He explained that space ships are all about but they travel in a fourth dimension and are invisible unless they so will. People with highly developed senses are permitted to know or be aware of these space ships. The ships are from outer space and are here only for good. He has no fear of their presence at any time.

3. [redacted] explained that he has the ability to travel in the fourth dimension. This happens when he is asleep. He explained that this is not a dream but that his twin body or other body travels.

4. About two years ago [redacted] had his first encounter with an unidentified flying object. This encounter occurred, as he stated, in the fourth dimension. He found himself in a strange place which he thought to be the wilds of the Pacific northwest when the saucer appeared. The saucer stopped some distance away and a screen, similar to a TV screen, appeared. A total of six men appeared on the screen, two at a time, speaking in a friendly manner.

5. On May 11 and 12, 1957, [redacted] who flies his own airplane, flew from Oakland, California, to Yucca Valley to attend the space beat convention. On this flight, he reported, they were accompanied on two different occasions by flying saucers. Presence of the saucers was determined by one of the airplane's two compasses which always acted strangely when saucers were near.

Deputy Assistant Director, Collection/I 26 July 1957

[redacted]

Interview with [redacted] on the subject of Unidentified Flying Objects

1. [redacted] in appearance and actions, is a very average sort of person. He has no prominent features. His height is about 5'9"; weight about 150 - 160 pounds. His complexion is slightly sallow. He was born and raised in the Pacific northwest and spent most of his adult life in the lumber business at Oakland, California. He served in WWII as an intelligence officer for the 197 A. A. Battalion, advancing from private to major. During the interview [redacted] was very calm and relaxed at all times and talked with an earnest belief in what he had to say.

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4. About two years ago [redacted] had his first encounter with an unidentified flying object. This encounter occurred, as he stated, in the fourth dimension. He found himself in a strange place which he believed to be the wilds of the Pacific northwest when the saucer appeared. The saucer stopped some distance away and a screen, similar to a TV screen, appeared. A total of six men appeared on the screen, two at a time, speaking in a friendly manner.

5. On May 11 and 12, 1957, [redacted] who flies his own airplane, flew from Oakland, California, to Yucca Valley to attend the space [illegible] convention. On this flight, he reported, they were accompanied on two different occasions by flying saucers. Presence of the saucers was determined by one of the airplane's two compasses which always acted strangely when saucers were near.

[redacted]

Copied From Nearly Illegible Original

[redacted]

6. During the night of May 11th and 12th, [redacted] had an encounter with a flying saucer, as he states, in three dimensions. During the evening he felt a magnetic field directing him into the desert. After about a two mile walk he saw what appeared to be a star, but as he looked it blinked an orange light several times and grew into a white light, about fifteen or twenty miles away. It approached him to within about ½ mile at about 1500' altitude and changed into a round red orb of light, 20 - 30 feet in diameter. It remained motionless for about five minutes; as he approached it moved away and landed in the desert.

7. [redacted] spent the rest of the night walking in the desert as directed by the magnetic force he previously noted. Several times he felt that he was near and on one occasion he felt that he was land around the saucer but it was invisible. He felt the presence of the people who had arrived in the saucer and voiced greetings to them on several occasions. After spending rest of the night walking in the desert as directed, a revelation of a very personal nature came to [redacted]. After this he felt that the mission of the saucer was accomplished and the encounter was over. He returned to camp. On his return journey he encountered three people who had camped about two miles from the convention site who stated that they saw the light first described [redacted]

8. [redacted] estimates that during the night he walked about twenty miles. He stated that at the time he was suffering from the mumps and was in considerable discomfort. He would much rather have been in camp asleep but he felt that he should follow the magnetic impulses. He said that he was not compelled to follow and that he could have broken off and gone home at any time.

9. No classified information was given [redacted]

[redacted]

Distribution:
Orig and 1 - forward
1 - CS/SI
2 - FSD
1 - ASD/W/A
2 - ASD

OSI/ASD/[redacted] 2

[redacted]

(79)

(18)

20 DEC 1957

Dr. Thornton Page
The Johns Hopkins University
Operations Research Office
Chevy Chase, Maryland

Dear Dr. Page:

With reference to our prior conversation on Unidentified Flying Objects, there is enclosed for your information a copy of a letter to the Air Force together with the declassified version of the Panel Report.

Very sincerely,

[redacted] b3

Philip G. Strong
Deputy Assistant Director

Attachments:
1 - Letter to Air Force (S)
1 - Declassified Panel Report (U)

20 DEC 1957

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Very sincerely,

[redacted]

Philip G. Strong
Deputy Assistant Director

b3

Attachments:
1 - Letter to Air Force (S)
1 - Declassified Panel Report (U)

[redacted]

79

(Y Y) (72)

1424 33rd Street, N. W.
Washington, D. C.

3 January 1958

Dr. Samuel A. Goudsmit
Brookhaven National Laboratory
Associated Universities, Inc.
Upton, Long Island
New York

Dear Sam:

I have your letter of 26 December. Actually, Allen Hynek sat with the Panel for part of the time, but was not a regular member of the group and did not sign the report. Lloyd, on the other hand, was a regular member of the Panel and was a signer of the final report. Your memory as to Ohio State was quite right. Hynek was there at the time but now is with Fred Whipple at Harvard.

Best regards and a happy New Year to you.

Sincerely,

Philip G. Strong

B3

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Associated Universities, Inc.
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New York

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Sincerely,

Philip G. Strong

B3

84

(77)

(129)

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Brookhaven National Laboratories
Upton, Long Island
New York

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Deputy Assistant Director

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1 - Declassified Panel Report (U)

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Philip G. Strong
Deputy Assistant Director

Attachments:
1 - Letter to Air Force (S)
1 - Declassified Panel Report (U)

77

REPORT OF THE SCIENTIFIC PANEL
ON
UNIDENTIFIED FLYING OBJECTS

17 January 1953

1. The undersigned Panel of Scientific Consultants has met at the request of the Government to evaluate any possible threat to national security posed by Unidentified Flying Objects ("Flying Saucers"), and to make recommendation. The Panel has received the evidence as presented by cognizant Governmental agencies, primarily the United States Air Force, and has reviewed a selection of the best documented incidents.

2. As a result of its considerations, the Panel concludes:

That the evidence presented on Unidentified Flying Objects shows no indication that these phenomena constitute a direct physical threat to national security.

We firmly believe that there is no residuum of cases which indicates phenomena which are attributable to foreign artifacts capable of hostile acts, and that there is no evidence that the phenomena indicate a need for the revision of current scientific concepts.

3. In the light of this conclusion, the Panel recommends:

That the national security agencies take immediate steps to strip the Unidentified Flying Objects of the special status they have been given and the aura of mystery they have unfortunately acquired.

Co... ly

We suggest that this aim may be achieved by an integrated program designed to reassure the public of the total lack of evidence of inimical forces behind the phenomena.

/s/ Lloyd V. Berkner
Associated Universities, Inc.

/s/ [illegible], Chairman
California Institute of Technology

/s/ C. A. Cordault
Brookhaven National Laboratories

/s/ Luis W. Alvarez
University of California

/s/ Thornton Page
Johns Hopkins University

(78)

ER - 10-2692/a

17 APR 1958

Major Donald E. Keyhoe, USMC (Ret)
Director of NICAP
1536 Connecticut Avenue, N. W.
Washington 6, D. C.

Dear Major Keyhoe:

Thank you for your letter of March 13th.

I have had the records of this Agency checked and find nothing therein reflecting that any CIA employee, at any time, ordered any witness to an unidentified flying object to remain silent concerning said witness's observations of said UFO.

I hope this answers your question to your satisfaction.

Sincerely,

SIGNED

J. S. Earman
Executive Officer

B3

B3

O/DCI/FMChapin:jaf 17 Apr 58
Dist:
Orig - Addressee
1 - Off. of the Secy of the AF, Attn: Major L. H. Thacker w/basic
1 - JSE
1 - FMC
1 - ER
1 - Reading
1 - Col. Grogan
1 - ADSI, Attn: Mr. Lexow

ER - 10-2692/a

17 APR 1958

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Sincerely,

SIGNED

J. S. Rearan
Executive Officer

B3

B3

O/DCI/[illegible]Chapin:jnf 17 Apr 58
Dist:
Orig - Addressee
1 - Off. of the Secy of the AF, Attn: Major L. H. Thacker w/basic
1 - JSE
1 - FMC
1 - ER
1 - Reading
1 - Col. Grogan
1 - ADSI, Attn: Mr. Lexow

Copied From Nearly Illegible Original

98

(87)

Major Donald E. Keyhoe (Ret.)
Director of NICAP
1536 Connecticut Avenue, N.W.
Washington 6, D.C.

Dear Major Keyhoe:

Your letter of March 13 concerning the various reports on unidentified flying objects has been referred to cognizant officials on my staff and I am advised that preliminary investigation of these matters has resulted in the need for further inquiry and coordination with several other organizations.

I will advise you further regarding these matters dependent upon the findings of my staff.

Sincerely,

C. P. Cabell
Deputy Director

B3

(b)(3) OSI: [Richardson] [illegible] (21 Mar 58)
Distribution:
Orig. - Fwd.
1 - DDCI
1 - Exec Reg
1 - SA/DCI
2 - AD/SI

5

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Deputy Director

B3

(b)(3) OSI: [Richardson:amb] (21 Mar 58)
Distribution:
Orig. - Fwd.
1 - DDCI
1 - Exec Reg
1 - SA/DCI
2 - AD/SI

5

87

(79)

(82)

10-1952/a

Major Donald E. Keyhoe (Ret.)
Director of NICAP
1536 Connecticut Avenue, N. W.
Washington 6, D. C.

Dear Major Keyhoe:

On behalf of Mr. Dulles, thank you for your letter of March 13 making certain inquiries concerning UFOs.

Since this subject is of primary concern to the Department of the Air Force, we have referred your letter to that Department for appropriate reply.

Sincerely,

SIGNED

J. S. Earman
Executive Officer

cc: Off. of the Secy. of the Air Force, Attn: Maj. L. J. Thacker
w/basic

O/DCI/FMChapin:jaf 4 Apr 58
Dist:
Orig - Addressee
1 - JSE
1 - ADSI Attn: Mr. Lexow
1 - Col. Grogan
1 - ER
1 - Reading
1 - FMC

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Director of NICAP
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SIGNED

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Executive Officer

cc: Off. of the Secy. of the Air Force, Attn: Maj. L. J. Thacker
w/basic

O/DCI/[illegible]:lmf 4 Apr 58
Dist:
Orig - Addressee
1 - JEB
1 - ADSI Attn: Mr. Lexow
1 - Col. Grogan
1 - ER
1 - Reading
1 - FYI

89

(90) (81)

10-1890/A

Mr. Leon Davidson
64 Prospect Street
White Plains, New York

Dear Mr. Davidson:

On behalf of Mr. Dulles, thank you for your letter of March 11 making certain inquiries concerning UFOs.

Since this subject is of primary concern to the Department of the Air Force, we have referred your letter to that Department for appropriate reply.

Sincerely,

SIGNED

J. S. Bowman
Executive Officer

cc: Secy of the Air Force, Attn: Maj. L. J. Thacker w/basic

O/DCI/FMChapin:jaf 4 Apr 58
Dist:
Orig - Addressee
1 - JSE
1 - ADSI, Attn: Mr. Lexow (~~[illegible]~~)
1 - Col. Grogan
1 - ER
1 - Reading
1 - FMC

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SIGNED

J. S. Tanman
Executive Officer

cc: Secy of the Air Force, Attn: Maj. L. J. Thacker v/basic

O/DCI/FMChapin:jnf 4 Apr 58
Dist:
Orig - Addressee
1 - JSE
1 - ADSI, Attn: Mr. Lexow
1 - Col. Grogan
1 - ER
1 - Reading
1 - FMC

2137

90

(95)

(2)

Executive Registry
10-2528

14 APR 1958

Office of the Secretary of the Air Force
Information Service
Room 4C 916
The Pentagon

Attn: Major Lawrence J. Thacker

Dear Major Thacker:

In response to your request to Mr. Wilton E. Lexow, (b)(3) B3
I am enclosing the letters we have received from Major Donald E. Keyhoe and Mr. Leon Davidson in which they make certain inquiries concerning UFOs.

I am also enclosing copies of our replies to these letters stating that we have referred this correspondence to the Air Force for reply. In addition, I am enclosing, as you requested, three copies of the de-classified report of the Scientific Panel which we had in our files.

Sincerely,

SIGNED

J. S. Earman
Executive Officer

B3

O/DCI FMChapin:jaf 4 Apr 58
Dist:
Orig & 1 - Addressee w/basic and enc.
1 - ADSI Attn: Wilton E. Lexow (b)(3)
1 - Col. Grogan
1 - JSE
1 - ER
1 - Reading
1 - FMC

B3

B3

B3

14 APR 1958

Office of the Secretary of the Air Force
Information Service
Room 4C 916
The Pentagon

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SIGNED

J. S. Earman B3
Executive Officer

O/DCI/FMChapin:jnf 4 Apr 58 B3
Dist:
Orig & 1 - Addressee w/basic and enc.
1 - ADSI Attn: Wilton E. Lexow (b)(3) B3
1 - Col. Grogan B3
1 - JSE
1 - FR
1 - Reading
1 - FMC

58423

95

(104) (77)

B3

1424 33rd Street, N. W.
Washington 7, D. C.
May 8, 1958

Dear Lloyd:

Your letter of 21 April with the enclosures dealing with Dr. Davidson were waiting for me on my return from a month's trip abroad.

Shortly before my departure, similar letters had come to us from Dr. Davidson and also from Major Kehoe. This correspondence was referred to the Air Force for appropriate action and, since receipt of your letter, I have been in touch with the officers concerned to find out what the present status is and what guidance I might give you in the matter. Unfortunately, I will not be able to get together with them until sometime next week, so this is in the nature only of an interim acknowledgement. I will write you again when I know more about the present status of the matter.

One point I might make of which you are of course well aware is that the statement made by Ruppelt quoted by Davidson concerning "orders" to the Panel is completely without foundation.

Best regards.

Sincerely,

Philip G. Strong

B3

Philip G. Strong

Dr. Lloyd V. Berkner
President
Associated Universities, Inc.
10 Columbus Circle
New York 19, New York

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Sincerely,

P.G. Strong

Philip G. Strong

B3

Dr. Lloyd V. Berkner
President
Associated Universities, Inc.
10 Columbus Circle
New York 19, New York

104

(114)

187

Executive Registry
10-3802/a

26 May 1958

Mr. Leon Davidson
64 Prospect Street
White Plains, New York

Dear Mr. Davidson:

Thank you for your letters of April 27th and May 16th addressed to Mr. Dulles and to me, respectively.

As I advised you previously in my letter of 4 April, the Department of the Air Force is the component of the United States Government having action responsibility in the matters in which you have expressed interest. Hence your letters have again been forwarded to the Air Force for appropriate reply.

Sincerely,

Signed

J. S. Earman
Executive Officer

B3

B3

O/DCI/FMChapin:jnf 27 May 58
Dist:
Orig - Add.
1 - JSE
1 - FMC
0 - OSI w/basic

26 May 1958

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64 Prospect Street
White Plains, New York

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Executive Officer

B3

B3

O/DCI/EX:Chapin:jmf 27 May 58
Dist:
Orig - Addee
1 - JSE
1 - FMD
1 - CSI w/basic
1 - ER w/cy of basic
1 - Reading

114

(118)

B3

OSI:RGStrong:mb (29 May 1958)
Distribution:
Orig. - Addressee
1 - Assistant to the Director (Mr. Chapin)
1 - Office of Security
2 - DAD/C/SI
1 - ASD/SI

1424 33rd Street, N. W.
Washington 7, D. C.
29 May 1958

B3
B5

Dr. Lloyd V. Berkner
President
Associated Universities, Incorporated
Suite 1750, Coliseum Tower
10 Columbus Circle
New York 19, New York

Dear Lloyd:

This is an addition to my letter of 8 May, concerning the one to you from Mr. Davidson, and will also reply to your 19 May letter to me.

Since I wrote you on 8 May, Mr. Davidson has kept the pot boiling hard and many things have occurred. One of the most important of these is an exchange of correspondence between him and Bob Robertson. I am enclosing a copy of the two letters they exchanged and recommend strongly that you employ the general tenor of Bob's letter in your reply to Davidson.

I am also writing the other three panel members, Alvarez, Goudsmit, and Page, and sending them copies of the Robertson/Davidson exchange. This is being done in anticipation of their being bothered by Davidson as you and Bob have been. Perhaps a solid front erected between the panel members and Davidson will discourage him. He is taking far too much of all our time and effort.

In those cases where we have been required to correspond directly with Davidson, our reply has been merely one of acknowledging receipt and advising him that his queries had been forwarded to the Air Force for appropriate action.

Please contact me if you continue to be embroiled in this matter.

Best regards.

Sincerely,

B3

B3

OSI:PCStrong:sb (29 May 1958)
Distribution:
Orig. - Addressee
1 - Assistant to the Director (Mr. Chapin)
1 - Office of Security
2 - DAD/C/SI
1 - ASD/SI

1424 33rd Street, N. W.
Washington 7, D. C.
29 May 1958

B3
B3

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Best regards.

Sincerely,

Philip G. Strong

B3

Enclosures:
1. Letter to Davidson
2. Letter to Robertson

118

21 MAR 1958

MEMORANDUM FOR: Assistant Director, Office of Operations

SUBJECT: Unidentified Flying Objects

1. The attached copies of letters addressed to the Director of Central Intelligence have been passed to this Office for preparation of appropriate responses.

2. The statements and inquiries made in these letters involve a number of rather critical matters. It is important that our responses be carefully prepared.

3. Accordingly, I would like to have your comments relative to the last two paragraphs on page three of Major Hayhoe's letter as soon as possible. Any other comments or information that you consider pertinent would, of course, be appreciated.

Herbert Scoville, Jr.

HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

Attachments: a/s

Buckslip to Chief, OO/OO 24 March 1958

Please prepare a reply for my signature to Dr. Scoville. I hope Major Hayhoe is not referring to any of our field personnel. We know Leon Davidson, do we not?

[redacted] Assistant Director, Office of Operations

[redacted] : Unidentified Flying Objects

1. The attached copies of letters addressed to the Director of Central Intelligence have been passed to this Office for preparation of appropriate responses.

2. The statements and inquiries made in these letters involve a number of rather critical matters. It is important that our responses be carefully prepared.

3. Accordingly, I would like to have your comments relative to the last two paragraphs on page three of Major Hayhoe's letter as soon as possible. Any other comments or information that you consider pertinent would, of course, be appreciated.

Herbert Scoville, Jr.

HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

Attachments: a/s

Buckslip to Chief, CD/OO 24 March 1958

Please prepare a reply for my signature to Dr. Scoville. I hope Major Hayhoe is not referring to any of our field personnel. We know Leon Davidson, do we not?

[redacted]

210

(88)

MEMORANDUM FOR: Assistant Director, Office of Operations

SUBJECT : Unidentified Flying Objects

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3. Accordingly, I would like to have your comments relative to the last two paragraphs on page three of Major Keynoe's letter as soon as possible. Any other comments or information that you consider pertinent would, of course, be appreciated.

[signature] B3

HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

Attachments: a/sw/orig only

Distribution:
Orig & 1 - fwd.
2 - AD/SI
1 - Exec

OSI: [JRRichardson]:emb (b)(3)

B3

MEMORANDUM FOR: Assistant Director, Office of Operations

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HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

B3

Attachments: a/sw/orig only

Distribution:
Orig & 1 - fwd.
2 - AD/SI
1 - Exec

OSI:URRichardson:emb (b)(3)

B3

88

[redacted]

WA CITE CHGO 9337

SUPPORT [redacted] FROM [redacted]

RE DR. LEON DAVIDSON X DR. LEON DAVIDSON. WE ARE SENDING YOU BY BUCKSLIP A COPY OF DAVIDSON'S LATEST PUBLICATION ON SPACE SAUCERS ENTITLED: "THE AIR FORCE AND THE SAUCERS, PART THREE: THE CENTRAL INTELLIGENCE AGENCY BECOMES INVOLVED WITH SAUCERS." PLEASE NOTE PAGE 13 X 13 "VISIT TO THE CIA X CIA OFFICE IN CHICAGO." IN THIS SECTION DAVIDSON DID NOT WITHHOLD [redacted] NAME BECAUSE [redacted] ASKED HIM TO, BUT BECAUSE HE DIDN'T REMEMBER IT WELL ENOUGH TO RISK MISSPELLING. SEE THE ADDRESS CLIPPED FROM THE OUTER ENVELOPE. THE "SOUND-PROOFED CONFERENCE ROOM" WAS A CONVENIENT CONFERENCE ROOM ON THS FIRST FLOOR OF THE COURT HOUSE USED BY ANY COURT PEOPLE WHO WISH TO GO IN THERE. [redacted] DID, IN FACT, PROMISE TO GET THE CODE TRANSLATION AND THE IDENTIFICATION OF THE TRANSMITTER FOR DAVIDSON IF POSSIBLE, AND IN ANY EVENT TO GIVE HIM SOME RESPONSE WITHIN A WEEK OR SO. [redacted] DID NOT X NOT ASK DAVIDSON TO KEEP SECRET THE CHICAGO CIA X CIA LOCATION, BUT ADVISED DAVIDSON NOT TO USE CIA X CIA LETTERHEAD IN HIS FORTHCOMING ARTICLE (BEING FORWARDED UNDER BUCKSLIP) WITHOUT FIRST CLEARING WITH CIA X CIA AUTHORITIES IN WASHINGTON. THE MATTER OF CIA'S CHICAGO LOCATION NEVER CAME UP AND THIS IS SHEER DRAMA AIMED AT MAGAZINE STORY APPEAL. IN OUR TELEPHONE CONVERSATION ON 8 JANUARY 1958 X 8 JANUARY 1958 DAVIDSON ADVISED THAT HIS NEXT ARTICLE (PRESUMABLY THE ONE WE ARE FORWARDING TO YOU) WAS IN THE HANDS OF "PENTAGON SECURITY REVIEW PEOPLE." POSSIBLY, THEN, THIS ARTICLE IS NOT YET ON THE PRESS. IN ANY EVENT, [illegible] FROM THAT DAVIDSON [redacted]

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CH TOT 31/1520Z

ESW TOT 31/1635Z

APPROVED FOR RELEASE
DATE 24 Nov 78

D-(#107)

[redacted]

ESE NR29-39 ROUTINE GR320 0519017Z

[redacted]

CHGO CITE VA 27702

[redacted] FROM SUPPORT [redacted]

CASE [redacted] (CLOSED)

REUR CHGO 9337 X 9337

[redacted]

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REFERENCE LAST SENT OF YOUR TWX. WE DO NOT X NOT WANT ANY BUSINESS WITH DAVIDSON. IF HE WISHES TO CONTACT THE AGENCY HE ALREADY KNOWS ENOUGH NAMES. WE DO NOT X NOT SEE THAT ANY PURPOSE WILL BE SERVED BY GIVING HIM ANY MORE NAMES OR ADDRESSES. IN ADDITION, IT IS FELT THAT WE WOULD ONLY ENCOURAGE MORE SPECULATION BY HIM WERE WE TO CONTACT HIM AGAIN OR TO OFFER HIM A NEW CHANNEL IF HE SHOULD CONTACT US. SO UNLESS THERE ARE OVERRIDING REASONS IN THE FUTURE WE DO NOT X NOT WANT [redacted] INVOLVED IN THIS MESS. SORRY TO LEAVE IT WITH YOU BUT THE ONLY PURPOSE WHICH WOULD BE SERVED BY OTHER ACTION WOULD BE TO GET YOUR OFFICE OFF THE HOOK, BY INVOLVING SOMEONE ELSE IN

[redacted]

FEB 5 3 37 PM '58

CHGO CITE VA 27702

[redacted] FROM SUPPORT [redacted]

CASE [redacted] (CLOSED)

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APPROVED FOR RELEASE
DATE 24 Jan 78

D #108

(42)

4 April 1958

MEMORANDUM FOR RECORD

SUBJECT : Comments on Letters Dealing with Unidentified Flying Objects

REFERENCE: Memo to Assistant Director/SI from Chief, ASD/SI, dated 4 April 1958, same subject

1. Major Byrne's office (AFCIN) was contacted in regard to the release of the panel report to Mr. Davidson and Major Keyhoe. I was referred to Major Tacker, Office of the Secretary of Air Force Information Service (SAFIS).

2. In response to our query as to whether Air Force had any objection to our answering these letters enclosing a copy of the panel report, Major Tacker indicated that he had rather the CIA forward the letters to him with copies of the unclassified report and he will answer the letters. He stated that the Air Force is endeavoring to impress upon Major Keyhoe and others in a similar position, that his office is the proper place to come for such information.

3. In view of my conversation with Maj. Tacker, I called Frank Chapin in the DCI's office and advised him that the Air Force not only preferred to answer the letters, but was most insistent that they be permitted to answer them. He, therefore, is going to send the letters to Major Tacker and advise Mr. Davidson and Major Keyhoe of this action.

4. I think we can use this procedure as a precedent henceforth in all inquiries regarding UFO's.

8 APR 1958

W. E. LEKOW
Chief, Applied Science Division, SI

Orig and 1 - AD/SI
2 - ASD/SI
1 - ASD/M/A

OSI/ASD/WELekow:gl/682

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SI 8 APR 1958

W. E. LEXOW
Chief, Applied Science Division, SI

B3

Orig and 1 - AD/SI
2 - ASD/SI
1 - ASD/W/A

OSI/ASD/WELexow:gl/682

B3

92

(93)

[redacted]

4 April 1958

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Chief, Applied Science Division, SI

Replies sent to
Davidson & Keyhoe [illegible]
[illegible] AF
[illegible]
[illegible]

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Chief, Applied Science Division, SI

Replies sent to Davidson & Keyhoe [illegible] [illegible] AF [illegible] [illegible] AF [illegible] [illegible] [illegible]

93

(112)

[redacted]

22 May 1958

MEMORANDUM FOR RECORD

SUBJECT: Meeting with Mr. Chapin on Replying to Leon Davidson's UFO Letter, and Subsequent Telephone Conversation with Major Tacker

1. I met with Mr. F. M. Chapin, Assistant to the DCI, in his office on 22 May 1958 for the purpose of discussing actions to be taken in replying to two letters from Mr. Leon Davidson.

a. One dated 27 April 1958 addressed to the DCI

b. Another dated about 15 May 1958 addressed to Mr. J. S. Earman, Executive Officer to the DCI.

Copies of both these letters, and his reply to them, will be forwarded to me by Mr. Chapin as soon as his reply is drafted.

2. Mr. Chapin agreed to draft the reply noted above largely in the manner employed previously by Mr. Earman when he made his 14 April 1958 reply to Davidson. The reply will merely acknowledge receipt of Davidson's letters and will inform him again that the matter is one of Air Force concern and that his queries have been referred thereto for reply.

3. Following the meeting with Mr. Chapin I telephoned Major L. J. Tacker, USAF, finally contacting him on 23 May 1958. He stated that he had already replied to Davidson's 27 April letter (paragraph 1. a. above) for both the Air Forces and the DCI, and that information copies had been dispatched to CIA. I informed him then that Mr. Chapin had received a second letter from Davidson (paragraph 1. b. above), and that Mr. Chapin

a. had replied briefly to both (per paragraph 2 above), and

b. would forward copies of both incoming and outgoing correspondence to Major Tacker for further action.

4. Major Tacker asked if Mr. Cary had been able to contact Admiral Hillenkoetter as noted in Mr. Lexow's 16 May 1958 memorandum for record. I did not know, but stated I would look into the matter.

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LaRae L. Teel
Deputy Division Chief, Applied Science Division
Scientific Intelligence

Orig. - DAD/C/SI
2 - ASD
1 - Mr. Chapin (Ass't. to DCI)
1 - Mr. Cary (Legal Counsel)
1 - SO/SI (Mr. Hontson for Office of Sec'y)

112

C[illegible] Division

FROM : Support [illegible]

Chief, Chicago Office

9 January 1958

CHI-58-17

[redacted]

Case [redacted] (Closed) and Dr. Leon Davidson

REF : WA 26643, and [redacted] Telecon of 8 Jan 58

1. We have contacted Dr. Davidson by telephone advising him that we cannot resolve his problem concerning the space message and its transmitter because records on the matter have been destroyed by the evaluating agency. Davidson accepted this statement with the comment that he had been told this before, that he now had a second article for publication concerning Air Force handling of space sightings in the hands of the Pentagon security review people (which he thought was mild enough to pass them), and he hinted that he might wish to take up again at a later date the matter of this particular message.

2. We appreciate that there have been many cooks in the kitchen on this dish and that, as a result, the extraordinarily noncommittal and evasive answer we were instructed to give Davidson was perhaps the only one possible if we were to avoid crossing up previous statements of our own, and other involved agencies, to this man. But the answer was hardly fair to Davidson, and one not likely to be fully accepted by him.

3. [redacted]

4. We are sure more will be heard from Davidson.

[redacted]

[redacted]

[redacted]

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[redacted]

[redacted]

[redacted]

APPROVED FOR RELEASE
DATE 24 Nov 78

D- #106

(94)

STANDARD FORM NO. 64

[redacted]

Office Memorandum • UNITED STATES GOVERNMENT

TO : Assistant Director, Scientific Intelligence DATE: 4 April 1958

FROM : Chief, Applied Science Division, SI

SUBJECT: Comments on Letters Dealing with Unidentified Flying Objects

REFERENCES: (1) Letter to Director, CIA, from Leon Davidson, dated 11 March 1958
(2) Letter to Director, CIA, from Donald E. Keyhoe, Director of National Investigations Committee on Aerial Phenomena

1. As a result of the action taken by the IAC on 4 December 1952 (IAC-M-90, Paragraph 3a), a Scientific Intelligence Advisory Panel was convened 14-18 January 1953. The panel consisted of the following scientists: H. P. Robertson, Luis W. Alvarez, Lloyd V. Berkner, S. A. Goudsmit, and Thornton Page. The panel concerned itself with the evaluation of any possible threat to National Security by unidentified flying objects. The panel issued a report dated 17 January 1953. This report was classified Secret.

2. The letters from Leon Davidson and Donald Keyhoe to the DCI concerned themselves primarily with Edward J. Ruppelt's book on Unidentified Flying Objects. At the time that the scientific panel met, Ruppelt was a Captain in the Air Force and attended the panel meetings. His book, however, is concerned with the identification of unidentified flying objects. Ruppelt's statements regarding the mission of the panel are in error. He has led the reader to believe the panel's mission was to identify the flying objects and to make recommendations on methods to further identify such objects. This is the basis for the apparent contradictions which arose during the Mike Wallace television interview. This is also the basis for Mr. Keyhoe's misgivings.

3. In late October 1957, Major James F. Byrne of AFCIN-XIA requested a declassified version of the panel report. This office contacted each member of the panel and an agreed upon, declassified version was written and sent to the Assistant Chief of Staff, Intelligence, Department of the Air Force on 20 December 1957. It was the decision of all the panel members and the CIA that while no member of the panel objected to the use of his name in connection with the declassified version, they desired that no connection of the panel members with CIA be disclosed.

TO : Assistant Director, Scientific Intelligence DATE: 4 April 1958

FROM : Chief, Applied Science Division, SI

SUBJECT: Comments on Letters Dealing with Unidentified Flying Objects

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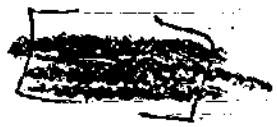

94

SUBJECT: Comments on Letters Dealing with Unidentified Flying Objects

4. It is apparent from reading Mr. Davidson's letter that Mike Wallace had a copy of the scientific panel report. In addition, the association of CIA with the US Air Force in the selection of the panel was revealed during the television interview. Therefore, the panel members have been associated with CIA, contrary to their wishes and contrary to CIA's desires.

5. The real intent of the referenced letters is to obtain a copy of the panel report. In view of this, and of the above, it would be most expedient to send them the declassified version. In order to not reveal an association between the panel members and CIA, either the Air Force should answer the letters or we should make it plain to the recipients that we obtained the panel report from the Air Force.

6. Attached are copies of the declassified panel report.

W. E. Lexow

W. E. LEXOW

[redacted]

REPORT OF THE SCIENTIFIC PANEL
ON
UNIDENTIFIED FLYING OBJECTS

17 January 1953

1. The undersigned Panel of Scientific Consultants has met at the request of the Government to evaluate any possible threat to national security posed by Unidentified Flying Objects ("Flying Saucers"), and to make recommendation. The Panel has received the evidence as presented by cognizant Governmental agencies, primarily the United States Air Force, and has reviewed a selection of the best documented incidents.

2. As a result of its considerations, the Panel concludes:

That the evidence presented on Unidentified Flying Objects shows no indication that these phenomena constitute a direct physical threat to national security.

We firmly believe that there is no residuum of cases which indicates phenomena which are attributable to foreign artifacts capable of hostile acts, and that there is no evidence that the phenomena indicate a need for the revision of current scientific concepts.

3. In the light of this conclusion, the Panel recommends:

That the national security agencies take immediate steps to strip the Unidentified Flying Objects of the special status they have been given and the aura of mystery they have unfortunately acquired.

We suggest that this aim may be achieved by an integrated program designed to reassure the public of the total lack of evidence of inimical forces behind the phenomena.

/s/ Lloyd V. Berkner
Associated Universities, Inc.

/s/ H. P. Robertson, Chairman
California Institute of Technology

/s/ S. A. Goudsmit
Brookhaven National Laboratories

/s/ Luis W. Alvarez
University of California

/s/ Thornton Page
John Hopkins University

(117)

190

B3

OSI:PGStrong:mb (29 May 1958)
Distribution:
Orig. - Addressee
1 - Assistant to the Director (Mr. Chapin)
1 - Office of Security
2 - DAD/C/SI
1 - ASD/SI

B3

B3

1424 33rd Street, N. W.
Washington 7, D. C.
29 May 1958

Dear Dr. Alvarez:

Recently both Lloyd Berkner and Bob Robertson have been besieged by a Mr. Leon Davidson with questions relative to their activities on and the results of the UFO panel which convened in Washington early in 1953. In anticipation that you might soon be bombarded similarly, I am enclosing copies of an exchange of correspondence between Robertson and Davidson, and recommend strongly that you employ the general tenor of Bob's letter should the occasion arise.

In those cases where we have been required to correspond directly with Davidson, our reply has been merely one of acknowledging receipt and advising him that his queries had been forwarded to the Air Force for appropriate action.

Please advise me in the event you become caught up in this matter.

Best regards.

Sincerely,

Philip G. Strong

B3

Enclosures:
1. Letter to Davidson
2. Letter to Robertson

Dr. Luis W. Alvarez
University of California

OSI:PGStrong:mo (29 May 1958)
Distribution:
Orig. - Addressee
1 - Assistant to the Director (Mr. Chapin)
1 - Office of Security
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B3

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B3

Enclosures:
1. Letter to Davidson
2. Letter to Robertson

Dr. Luis W. Alvarez
University of California
at Berkeley
Berkeley
California

117

(120)

197

4 JUN 1958

Major Lawrence J. Tacker
Office of the Secretary of
the Air Force
Information Service
The Pentagon
Washington 25, D. C.

Dear Major Tacker:

In accordance with the recent telephone discussion between you and Mr. LaRoe L. Teel of this Office, I am enclosing the letter we received from Mr. Leon Davidson wherein he continues to inquire about UFO's. I am enclosing also a copy of our reply in which we state that his query has been forwarded to the Air Force for reply.

B3(5)(3)

Sincerely,

Philip G. Strong
Deputy Assistant Director

B3

Enclosures:
1. 16 May ltr to Garman
2. 26 May ltr to Davidson

B3

B3

OSI:ASD:LLTeel:gl(mb) 3 June 1958
Distribution:

4 JUN 1958

Major Lawrence J. Tacker
Office of the Secretary of
the Air Force
Information Service
The Pentagon
Washington 25, D. C.

Dear Major Tacker:

In accordance with the recent telephone discussion between you and Mr. LeRoe L. Teel of this Office, I am enclosing the letter we received from Mr. Leon Davidson wherein he continues to inquire about UFO's. I am enclosing also a copy of our reply in which we state that his query has been forwarded to the Air Force for reply.

B3(b)(7)

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Philip G. Strong
Deputy Assistant Director

B3

Enclosures:
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2. 26 May ltr to Davidson

B3

B3

OSI:ASD:LLTeel:gl(mb) 3 June 1958
Distribution:
Orig. & 1 - Addressee w/encl.
1 - DAD/C/SI
1 - SO/SI (OS)
1 - Mr. F. Chaplin
2 - ASD/SI

B3

120

83

2430 E Street, N. W.
Washington 25, D. C.

[illegible] 1952

Dr. Thornton Page
7100 Connecticut Avenue
Chevy Chase 15
Maryland

Dear Dr. Page:

Thank you very much for sending me the copy of your letter of 10 July to Mr. Leon Davidson. This letter should do much to quiet down the large furor which Mr. Davidson has raised around the community. For our information, I would appreciate it very much if you could send me a copy of his 6 July letter in which he expresses the cause of his concern over flying saucers. So far we have never been able to get a precise statement from him as to why he is devoting so much time and effort to the matter.

Kindest personal regards.

Very sincerely,

Philip G. Strong

B3

C.C: ASD/SI w/ incl.

file
Unconventional aircraft.

Washington 25, D. C.

3, 1952

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7100 Connecticut Avenue
Chevy Chase 15
Maryland

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Kindest personal regards.

Very sincerely,

Philip G. Strong

B3

c.c: ASD/SI w/orch.

file Unconventional aircraft.

63

(131)

(77)

20

1424 33rd Street, N. W.
Washington 7, D. C.
August 19, 1958

B3

Dear Sam:

Thanks very much for your letter of 14 August about flying saucers. I think that your reply to Mr. Kirsch is exactly what is needed in present context.

B3

Ted Nordbeck, I know, gave you all the material that we could find in regard to Jungk. I am sorry it took so long but my people apparently had difficulty prying the information loose. I hope that the information given you was of some use.

Best regards.

Sincerely,

/s/

Philip G. Strong

B3

Dr. Samuel A. Goudsmit
Brookhaven National Laboratory
Associated Universities, Inc.
Upton, L.I.
New York

Unconventional aircraft has seen

1424 33rd Street, N. W.
Washington 7, D. C.
August 19, 1958

B3

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Sincerely,

/s/

Philip G. Strong

B3

Dr. Samuel A. Goudsmit
Brookhaven National Laboratory
Associated Universities, Inc.
Upton, L.I.
New York

Unconventional aircraft
C/ASD - has seen

131

136

41

10 Oct 58

National Investigations Committee
on Aerial Phenomena
Major Donald E. Keyhoe, Director
1536 Connecticut Avenue
Washington 6, D. C.

Dear Major Keyhoe:

In response to your letter of 22 September 1958, we have referred it to Major Tacker, Office of Information Services, United States Air Force.

I believe the Air Force is the executive agency and perhaps the only government agency qualified to speak on the subject of unidentified flying objects.

Sincerely yours,

J. S. Earman Jr.
Executive Officer

B3

Distribution:
Orig and 2 - Earman
1 - ASD (EFO file)
1 - Front Office

B3

OSI/ASD/WELexow:gl/682 (10Oct58)

10 Oct 58

National Investigations Committee
on Aerial Phenomena
Major Donald E. Keyhoe, Director
1536 Connecticut Avenue
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I believe the Air Force is the executive agency and perhaps the only government agency qualified to speak on the subject of unidentified flying objects.

Sincerely yours,

J. S. Earman
Executive Officer

B3

Distribution:
Orig and 2 - Earman
1 - ASD (UFO file)
1 - Front Office

B3

OSI/ASD/WELexowigl/682 (10ct58)

47

136

(142)

(39)

2 December 1958

George Popowitch
UFO Research Committee
P. O. Box 5242
Akron 13, Ohio

Dear Mr. Popowitch:

Thank you for your letter of 19 November 1958.

We have forwarded your letter of inquiry concerning Unidentified Flying Objects to the Department of the Air Force for action. Contrary to your statement, we do not take an "active interest in the unidentified flying objects picture."

Sincerely,

Distribution:
Original and 1 - forward
1 - Air Force
1 - Chapin(Admin Bldg.-229)
2 - AD/SI
2 - ASD/SI
1 - ASD/W/Air

OSI/ASD/[illegible]:pdh

2 December 1958

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UFO Research Committee
P. O. Box 5242
Akron 13, Ohio

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Sincerely,

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Original and 1 - forward
1 - Air Force
1 - Chapin(Admin Bldg.-229)
2 - AS/SI
2 - ASD/SI
1 - ASD/W/Air ✓

OSI/ASD/[illegible]:pdh

not forwarded

142

(143)

~~102~~

17 DEC 1958

Mr. Larry W. Bryant
1002 Arnold Street
Newport News, Va.

Dear Mr. Bryant:

Your letter dated 30 November 1958 has been referred to Major L. J. Tacker, Office of Information Services, United States Air Force.

This Agency has no responsibility in the matter of unidentified flying objects. The Air Force has been assigned executive responsibility and is the only agency of government qualified to speak on UFO's.

Respectfully yours,

P. G. Strong

PHILIP G. STRONG
Deputy Assistant Director

B3

Distribution:
Orig and 1 - forward
2 - DAD/C/SI
3 - ASD/SI
1 - Major Tacker, USAF

OSI/ASD/LLTeel:gl/682 (5)

B3

17 DEC 1958

Mr. Larry W. Bryant
1002 Arnold Street
Newport News, Va.

Dear Mr. Bryant:

Your letter dated 30 November 1958 has been referred to Major L. J. Tacker, Office of Information Services, United States Air Force.

This Agency has no responsibility in the matter of unidentified flying objects. The Air Force has been assigned executive responsibility and is the only agency of government qualified to speak on UFO's.

Respectfully yours,

B3

PHILIP G. STRONG
Deputy Assistant Director

Distribution:
Orig and 1 - forward
2 - DAD/C/SI
3 - ASD/SI
1 - Major Tacker, USAF

B3

OSI/ASD/LLTeel:gl/682 (b)(3)

143

115

66

1424 33rd Street, N. W.
Washington 7, D. C.
29 May 1953

B.3

Dear Sam:

Recently both Lloyd Berkner and Bob Robertson have been besieged by a Mr. Leon Davidson with questions relative to their activities on and the results of the UFO panel which convened in Washington early in 1953. In anticipation that you might soon be bombarded similarly, I am enclosing copies of an exchange of correspondence between Robertson and Davidson, and recommend strongly that you employ the general tenor of Bob's letter should the occasion arise.

In those cases where we have been required to correspond directly with Davidson, our reply has been merely one of acknowledging receipt and advising him that his queries had been forwarded to the Air Force for appropriate action.

Please advise me in the event you become caught up in this matter.

Best regards.

Sincerely,

Philip G. Strong

B3

Enclosures:
1. Letter to Davidson
2. Letter to Robertson

Dr. Samuel A. Goudsmit
Brookhaven National Laboratories
Upton, Long Island
New York

1424 33rd Street, N. W.
Washington 7, D. C.
29 May 1953

B 3

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Sincerely,

P. C. Strong

Philip C. Strong

B3

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1. Letter to Davidson
2. Letter to Robertson

Dr. Samuel A. Goudsmit
Brookhaven National Laboratories
Upton, Long Island
New York

OSI (PCStrong:ab 29 May 1953)
Distribution:
Orig. - Addressee
1 - Assistant to the Director (Mr. Chapin)
2 - DAD/P/SI
1 - ASD/SI 1-OS

B 3

B3

115

(116)

B3

OSI:PGStrong:mb (29 May 1958)
Distribution:
Orig. - Addressee
1 - Assistant to the Director (Mr. Chapin)
1 - Office of Security
2 - DAD/C/SI
1 - ASD/SI

B

B3

1424 33rd Street, N. W.
Washington 7, D. C.
29 May 1958

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B3

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1. Letter to Davidson
2. Letter to Robertson

Dr. Thornton Page
The Johns Hopkins University
Operations Research Office
Chevy Chase
Maryland

Distribution:
Orig. - Addressee
1 - Assistant to the Director (Mr. Chapin)
1 - Office of Security
2 - DAD/C/SI
1 - ASD/SI

B

B3

1424 33rd Street, N. W.
Washington 7, D. C.
29 May 1953

Dear Dr. Page:

Recently both Lloyd Dexter and Bob Robertson have been besieged by a Mr. Leon Davidson with questions relative to their activities on and the results of the UFO panel which convened in Washington early in 1953. In anticipation that you might soon be bombarded similarly, I am enclosing copies of an exchange of correspondence between Robertson and Davidson, and recommend strongly that you employ the general tenor of Bob's letter should the occasion arise.

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Best regards.

Sincerely,

Philip G. Strong

B3

Enclosures:
1. Letter to Davidson
2. Letter to Robertson

Dr. Sherman Page
The Johns Hopkins University
Operations Research Office
Chevy Chase
Maryland

116

KR 11-471/a

27 JAN 1959

[redacted]

Major Donald H. Kaybee, USMC (Ret)
Director of NICAP
1536 Connecticut Ave., N. W.
Washington 6, D. C.

Dear Major Kaybee:

Thank you for your letter of January 12th.

As you can readily understand we do not normally pass, outside of official channels, either affirmative or negative information in response to an inquiry such as yours. Would it be possible for you to tell us why you require the information, so that we may have a basis for an appropriate reply.

Sincerely,

J. S. Earman
Executive Officer

Orig:CD/OO/[redacted]
TYPED:O/DCI/[redacted] 27 Jan 59
Dist:
Orig - Add.
1 [redacted]
1 -
1 -
1 -

APPROVED FOR RELEASE
DATE 24 Nov 78

D- #112

[redacted]

16 May 1958

MEMORANDUM FOR RECORD

SUBJECT: Meeting with Air Force Personnel Concerning Scientific Advisory Panel Report on Unidentified Flying Objects, dated 17 January 1953 (Secret)

1. A meeting was convened this date with representatives of the Air Force to discuss what steps should be taken concerning the subject report in order to take care of inquiries such as the letters written by Mr. Leon Davidson. Mr. Davidson has been most insistent upon getting the entire report released. The full report is classified "Secret." A declassified version is available, a copy of which was given to Mr. Davidson.

2. The following personnel were at the meeting:

Mr. Philip G. Strong	DAD/C/SI, CIA
Major Joseph E. Boland	SAF LL-3
Major James F. Byrne	AFCIN-XIA
Major Lawrence J. Tacker	SAFIS
Dr. A. Francis Arcier	ATIC
Mr. George Carr	Legislative Counsel, CIA
Mr. W. E. Lexow	OSI, CIA

3. Paragraph 3 of the report cites examples of actions that could be taken by an enemy with possibly dangerous consequences to national security. This is the principal reason that the entire report cannot be declassified. This was agreed to in the meeting. In addition, it was pointed out by Mr. Strong that several of the panel members specifically requested that while they had no objection to their names being used in connection with the report, they did not want their names connected to the Central Intelligence Agency. So far it is believed that all connections between the panel members and CIA have been made by unofficial personnel.

4. In dealing specifically with Mr. Davidson it was agreed that Major Tacker would answer for the DCI at the same time that he was answering for the Air Forces. (Mr. Davidson sent a copy of his letter to Major Tacker to the DCI for a response.)

5. Mr. Strong pointed out that perhaps the best way to forestall any future inquiries along these lines was to put out a press release covering the subject of unidentified flying objects, utilizing the panel report as much as possible. Major Boland agreed

MEMORANDUM FOR RECORD

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Dr. A. Francis Arcier	ATIC
Mr. George Cary	Legislative Counsel, CIA
(SEC) Mr. W. E. Lexow	OSI, CIA

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[redacted]

211

SUBJECT: Meeting with Air Force Personnel Concerning Scientific Advisory Panel Report on Unidentified Flying Objects, dated 17 January 1953 (Secret)

that this was perhaps the best way to handle it, inasmuch as in his capacity of Legislative Liaison, it would best satisfy congressional requirements. Major Tacker will draft an Air Force press release, clearing it through the various sections of the Air Force, and will then submit it to Mr. Cary for Agency review, Mr. Cary will consult with the Office of Security, Mr. Strong, and the undersigned when he receives the draft press release.

6. The Air Force representatives believe that much of the trouble they have been having with Major Keyhoe along these same lines could be alleviated if the Major did not have such important personages as Vice Admiral R. H. Hillenkoetter, USN (Ret.), former DCI, on the board of governors of his organization. They suggested that perhaps if the Admiral was shown the Secret panel report he would understand and take appropriate actions. Mr. Cary said that he would relate this suggestion to Mr. Houston (General Counsel).

7. Major Boland suggested that it might be advisable to contact the panel members to consider a rewording of the panel report somewhat along the lines that Dr. Menzel suggested in his letter to all the members of the panel. Dr. Menzel has received the unclassified version from Mr. Leon Davidson. Mr. Strong feels that this may be inadvisable at the present time, inasmuch as the report has already been made available to the public and any change may arouse suspicion. However, he will contact Dr. Robertson and discuss this.

W. E. LEXOW
Chief, Applied Science Division, SI

Distribution:
Orig - DAD/C/SI
2 - ASD/SI
1 - Mr. Chapin (Ass'n to the DCI)
1 - Mr. Cary (Leg. Counsel)
1 - SO/SI (b)(3) Office of Security)

OSI/ASD/WELexow:gl/692

[redacted]

(153)

(15)

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : Major Tacker, USAF

DATE: 22 August 1953

B3

FROM : W. E. Lexow, Chief, Applied Science Division

SUBJECT:

Dear Major Tacker:

Here is a copy of the letter from Fred Kirsch which I phoned you about yesterday. I have indicated to the office of the DCI that you have graciously volunteered to answer this letter as the official authority in these matters.

W. E. Lexow

W. E. LEXOW

B3

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

B3

TO : Mr. F. M. Chapin

DATE: 22 August 1953

FROM : Chief, Applied Science Division, SI

SUBJECT:

1. Major Tacker has been given a copy of this letter. He has agreed to notify Mr. Kirsch that the Air Force is the [illegible] authority in UFO Matters. He will also notify Mr. Kirsch [illegible] correspondence that Mr. Kirsch sends to any other area of [illegible] ment will automatically come to Major Tacker's desk. For [illegible] information Mr. Kirsch has written 20 such letters to the Air Force.

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2. Our only action on this is to answer Mr. Kirsch stating that we have turned his letter over to the Air Force [illegible] responsible authority for appropriate action, thanking him [illegible] cerely.

B3

133

(133)

(43)

STANDARD FORM NO. 64

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B3

(134)

UFO

22 August 1958

MEMORANDUM FOR RECORD

SUBJECT: Reply to Leon Davidson's letter of 3 July 1958

In accordance with my recommendation to Mr. Chapin on 28 July 1958, a check this date with the executive registry indicates the letter was not replied to apparently in accordance with my recommendation.

B3

W. E. LEXOW
Chief, Applied Science Division

B3

22 August 1958

MEMORANDUM FOR RECORD

SUBJECT: Reply to Leon Davidson's letter of 3 July 1958

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B3

W. E. LEXOW
Chief, Applied Science Division

B3

47

134

(138)

[redacted]

OSI:EGStrong:mb (29 October 1958)
Distribution:
Orig. & 1 - Addressee
2 - DAD/C
3 - ASD/SI

29 OCT 1958

MEMORANDUM FOR: Director, Photographic Intelligence Center

SUBJECT: Reported Photography of Unidentified Flying Objects

REFERENCE: Your memorandum PIC-7-58, dated 1 October 1958, Same Subject

1. The following information is supplied in answer to the referenced memorandum.

2. OSI has an interest in keeping track of UFO's, however, the over-all community responsibility for a) investigating UFO's and b) handling all information releases to the public is vested in the Department of the Air Force. The Agency, from the Director on down, has recently been flooded by queries concerning UFO's as a result of the declassification of a portion of the "Flying Saucer Report of January 1953." All of these have been referred, with only acknowledgment by us, to Major Lawrence J. Tacker, USAF, SAFIS, Room 4C916, Pentagon, who has the public relations responsibility for the Air Force. When some problem of investigation comes up, we normally refer the matter to Mr. J. H. Gilmore of AFCIN, Room 4B914, Pentagon. If it is agreeable with you, we would like to refer a copy of your memorandum to Mr. Gilmore so that the appropriate investigation of this matter may be made for the benefit of the entire community.

3. This, I think, answers your query regarding the UFO photographs that Mr. Fine purportedly has. I assume that this matter would be entirely separate from the problem of Mr. Fine's new films and emulsions, which you undoubtedly would handle through your normal channels.

4. Thank you very much for calling this matter to our attention. I will await a telephone call from either you or Mr. Stallings before sending a copy of your memorandum to Mr. Gilmore.

EG Strong

Distribution:
Orig. & 1 - Addressee
2 - DAD/C
3 - ASD/SI

29 OCT 1958

MEMORANDUM FOR: Director, Photographic Intelligence Center

SUBJECT: Reported Photography of Unidentified Flying Objects

REFERENCE: Your memorandum PIC-7-58, dated 1 October 1958, Same Subject

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PHILIP G. STRONG

[redacted]

138

SENDER WILL CHECK CLASSIFICATION TOP AND BOTTOM

UNCLASSIFIED		CONFIDENTIAL		SECRET

CENTRAL INTELLIGENCE AGENCY

OFFICIAL ROUTING SLIP

TO	NAME AND ADDRESS	INITIALS	DATE
1	Frank M. Chapin		
2	Room 229		
3	Admin. Bldg.		
4			
5			
6			

	ACTION		DIRECT REPLY		PREPARE REPLY
	APPROVAL		DISPATCH		RECOMMENDATION
	COMMENT		FILE		RETURN
	CONCURRENCE		INFORMATION		SIGNATURE

Remarks: I have discussed the Leon Davidson letter with [redacted] Their unanimous opinion was that this letter should not be answered unless it is the policy of the Agency to answer all-inquiring requests. They feel, as I do, that this will merely spark another letter from Mr. Davidson. They also feel he may have ulterior motives, some of them perhaps not in the best interest of this country. However, if a letter must be drafted, I suggest we state that the answer to his question is a categorical "no." Also reference can be made to public law which prohibits [illegible] from engaging in any activities such as this within the United States. [redacted]

For your information, [redacted] would like to refer a copy of this letter to the FBI for appropriate action. I will undertake to send a copy to [redacted] provided you have no objections.

FOLD HERE TO RETURN TO SENDER

FROM: NAME, ADDRESS AND PHONE NO.	DATE
[illegible]	28Jul58

UNCLASSIFIED		CONFIDENTIAL		SECRET

(40)

[illegible] Form [illegible] which may be used.

U.S. GOVERNMENT PRINTING OFFICE: [illegible]

SENDER WILL CHECK CLASSIFICATION TOP AND BOTTOM

UNCLASSIFIED		CONFIDENTIAL		SECRET

CENTRAL INTELLIGENCE AGENCY

OFFICIAL ROUTING SLIP

TO	NAME AND ADDRESS	INITIALS	DATE
1	Frank H. Chapin		
2	Room 229		
3	Admin. Bldg.		
4			
5			
6			

	ACTION		DIRECT REPLY		PREPARE REPLY
	APPROVAL		DISPATCH		RECOMMENDATION
	COMMENT		FILE		RETURN
	CONCURRENCE		INFORMATION		SIGNATURE

Remarks: I have discussed the Leon Davidson letter with [redacted] Their unanimous opinion was that this letter should not be answered unless it is the policy of the Agency to answer all incoming requests. They feel, as I do, that this will merely spark another letter from Mr. Davidson. They also feel he may have ulterior motives, some of them perhaps not in the best interest of this country. However, if a letter must be drafted, I suggest we state that the answer to his question is a categorical "no." Also reference can be made to public law which prohibits [illegible] from engaging in any activities such as this within the United States.

For your information, [redacted] would like to refer a copy of this letter to the FBI for appropriate action. I will undertake to send a copy to [redacted] provided you have no objections.

FOLD HERE TO RETURN TO SENDER

FROM: NAME, ADDRESS AND PHONE NO.	DATE
[illegible]	23Jul58

UNCLASSIFIED		CONFIDENTIAL		SECRET

(40)

Form 3-64 which may be used.

U.S. GOVERNMENT PRINTING OFFICE

212

[redacted]

File UFO

25 July 1958

MEMORANDUM FOR RECORD

SUBJECT: Meeting with Representatives of [redacted] Concerning Letter from Leon Davidson, dated 3 July 1958

1. A meeting was held this date with [redacted] OSI representatives were Mr. Mackey and Mr. Lexow.

Release

2. Mr. Davidson's letter was read and discussed. Both Mr. [redacted] were of the opinion that the letter should not be answered unless it was a policy of Public Relations to answer all letters. This policy will be checked with Mr. Chapin by Mr. Lexow. If an anser must be made, a categorical "no" to the question posed by Mr. Davidson was suggested by [redacted] Mr. [redacted] added that perhaps Davidson should be advised of the fact that we are barred from such operations in the United States by public law.

Release

3. [redacted] suggested that perhaps the FBI should receive Mr. Davidson's letter in the event that Mr. Davidson is working for any subversive group attempting to solicit information from the Agency. It was agreed that after any action on the part of OSI has been taken, the letter be forwarded to [redacted] who would then take it up with the FBI.

Release

W. E. LEXOW
Chief, Applied Science Division, SI

Distribution:
Orig - UFO File (Air Section)
1 - ASD (chrono)

OSI/ASD:WELexow:gl/6[illegible]

[redacted]

[redacted]

INFORMATION REPORT

[redacted]

[illegible] AND [illegible] SEMINATED BY

CENTRAL INTELLIGENCE AGENCY

[illegible]	REPORT NO. OO-B-3,115,275
SUBJECT: Unexplained Traveling Bright Light Seen in the Sky	DATE DISTRIBUTED: 27 October 1958
	NO. OF PAGES: 1 / NO. OF ENCLS.
	SUPPLEMENT TO REPORT #
DATE OF INFORMATION (Date of Occurrence or Interview, which is sometimes described in report number): 10 Jul 58	RESPONSIVE TO: [redacted]
PLACE AND DATE ACQUIRED (By source): Near Leningrad 10 Jul 58	

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

1. About 10 PM on the night of 10 Jul 58, while enroute from Leningrad to Moscow by train, we saw a bright light in the air which was trailed by a long tail of black smoke. It was much too bright for a plane. It may have been five to 15 miles distant and was under two thousand feet above ground.

2. We inquired of our guide what it was but got only a humorous reply that it was probably a flying saucer. The guide was "Ivanov" who had been with a party of which I was a member on a previous trip. Whether he knew what it was could not be determined.

[Editorial Comment: Your attention is invited to OO-B-3113696 from another source, in which the same incident is reported.]

- end -

[illegible]

1

10 Jul 58

Near Leningrad
10 Jul 58

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

1. About 10 PM on the night of 10 Jul 58, while enroute from Leningrad to Moscow by train, we saw a bright light in the air which was trailed by a long tail of black smoke. It was much too bright for a plane. It may have been five to 15 miles distant and was under two thousand feet above ground.

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[Editorial Comment: Your attention is invited to OO-8-3113696 from another source, in which the same incident is reported.]

- end -

[redacted]

D - #58

[redacted] B

1 October 1958

B3 MEMORANDUM FOR: [redacted]

SUBJECT: Reported Photography of Unidentified Flying Objects

1. It has come to my attention that a civilian [redacted] has been
BC experimenting with new kinds of films and emulsions which he has been exposing through a telescope set-up in his backyard here in Washington. During the course of his photographic experiments in the last three months he managed, it is reported to me, to photograph on a number of occasions geometrically shaped flying objects as they passed between his telescope and the moon. I have not seen these photographs and have had no business to look for same but I have had them reported
BC to me as a result of our investigation of [redacted] photographic process which reportedly delivers a very high degree of resolution. Incidential to the examination of some of these high resolution photographs at his home, one of my men, [redacted] B3 [redacted] did notice the objects reported and in questioning or the man found that he had photographed different groups at several different times during the past three months.

2. [redacted]

B3 [redacted] However, I would not like to overlook some evidences of an often reported phenomenon which might be of interest
B3 to [redacted] and to the intelligence community generally.

3. [redacted] reports to me that the photographs of these objects were remarkably clear and certainly indicated a phenomenon for which he had no ready explanation and for which in the past he found some
B3 considerably amounts of interest particularly in [redacted] I do not wish
BC > B3 to get involved with [redacted] if there is no interest in [redacted] in these reported materials, and I would therefore welcome your counsel and suggestion as to how we might get our hands on these materials to examine them firsthand and to make a more complete analysis of them.
BC [redacted] is exceedingly cagey in his handling of these materials and would not permit anyone to borrow any of these materials. He explained that he was currently out of work and that he had had a couple of recent contracts with the Air Technical Intelligence Center at Dayton. A contact with the Air Force reveals that he has no contracts which are

B3 MEMORANDUM FOR: [redacted]

SUBJECT: Reported Photography of Unidentified Flying Objects

1. It has come to my attention that a civilian [redacted] has been experimenting with new kinds of films and emulsions which he has been exposing through a telescope set-up in his backyard here in Washington. During the course of his photographic experiments in the last three months he managed, it is reported to me, to photograph on a number of occasions geometrically shaped flying objects as they passed between his telescope and the moon. I have not seen these photographs and have had no business to look for same but I have had them reported to me as a result of our investigation of [redacted] photographic process which reportedly delivers a very high degree of resolution. Incidential to the examination of some of these high resolution photographs at his home, one of my men, [redacted] did notice the objects reported and in questioning of the man found that he had photographed different groups at several different times during the past three months.

B6 B6 B3

2. [redacted] However, I would not like to overlook some evidences of an often reported phenomenon which might be of interest to [redacted] and to the intelligence community generally.

B3 B3

3. [redacted] reports to me that the photographs of these objects were remarkably clear and certainly indicated a phenomenon for which he had no ready explanation and for which in the past he found some considerably amounts of interest particularly in [redacted] I do not wish to get involved with [redacted] if there is no interest in [redacted] in these reported materials, and I would therefore welcome your counsel and suggestion as to how we might get our hands on these materials to examine them firsthand and to make a more complete analysis of them. [redacted] is exceedingly cagey in his handling of these materials and would not permit anyone to borrow any of these materials. He explained that he was currently out of work and that he had had a couple of recent contracts with the Air Technical Intelligence Center at Dayton. A contact with the Air Force reveals that he has no contracts which are

B3 B6, B3 B6

63247

[redacted]

T-22

ODSET

B6 in effect at the present time. [redacted] appears to feel that he has some real evidence of the existence of unidentified flying objects in his photography and I am sure he would consider delivering them to somebody only for a price, yet unspecified. By copy of this memorandum to [redacted] I would bring him up to date on this subject in case you would like to take it up unilaterally with him.

B3

B6 4. For background information it is also reported to you that our original contact with [redacted] was set up through [redacted] and therefore there is some information on him already available in their files. You are also undoubtedly aware that the House committee investigating outer space and space phenomena has recently been addressing itself to the problem of the unidentified flying objects and has been seeking to review the evidence for certain House representatives to determine what validity this concept might have. According to the best information I have at the present moment, after several hearings on this subject this committee has suspended its investigation for several months after which time it intends to reopen them.

B3

B3

CHECK CLASSIFICATION TOP AND BOTTOM

	CLASSIFIED		CONFIDENTIAL		SECRET

CENTRAL INTELLIGENCE AGENCY

OFFICIAL ROUTING SLIP

TO	NAME AND ADDRESS	INITIALS	DATE
1	Mr. [redacted]		
2	[redacted]		
3			
4			
5			
6			

	ACTION		DIRECT REPLY		PREPARE REPLY
	APPROVAL		DISPATCH		RECOMMENDATION
	COMMENT		FILE		RETURN
	CONCURRENCE		INFORMATION		SIGNATURE

Remarks:

[redacted]

Since Karman did not come out with quite the specifics you had hoped for in his reply to Karman's letter, Karman would like to have your recommendation as to what we do now.

FOLD HERE TO RETURN TO SENDER

FROM: NAME, ADDRESS AND PHONE NO.	DATE
[redacted]	6 Feb 59

	UNCLASSIFIED		CONFIDENTIAL		SECRET

FORM 237

APPROVED FOR RELEASE
DATE 24 Nov 78

#114

[redacted] SEE BOTTOM OF PAGE FOR SPECIAL CONTROLS, IF ANY

INFORMATION REPORT

[redacted]

PREPARED AND DISSEMINATED BY
CENTRAL INTELLIGENCE AGENCY

COUNTRY: USSR

REPORT NO.: OO-E-3,113,696

SUBJECT: [redacted] Sighting of Unidentified Airborne Objects Near Leningrad/[redacted]

DATE DISTRIBUTED: 10 Oct 58

NO. OF PAGES: 1

NO. OF ENCLS.:

SUPPLEMENT TO REPORT #:

DATE OF INFORMATION (Date or dates, or, or between, which, events or conditions described in report occurred): [redacted] Jul 58

PLACE AND DATE ACQUIRED (By source): Leningrad; Moscow; [redacted] Jul 58

RESPONSIVE TO: OO/C [redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE

1.

2.

3.

4.

5.

[redacted] Sighting of Unidentified Airborne Objects Near Leningrad/ [redacted]

DATE DISTRIBUTED: 10 Oct 58

NO. OF PAGES: 4

NO. OF CIRCLES:

SUPPLEMENT TO REPORT #:

RESPONSIVE TO: DC/C [redacted]

DATE OF INFORMATION (Date of [illegible] or [illegible] which [illegible] of conditions described in report [illegible]): [redacted] Jul 58

PLACE AND DATE ACQUIRED (By source): Leningrad; Moscow; [redacted] Jul 58

THIS IS UNEVALUATED INFORMATION

SOURCE

1.

2.

3.

4.

5.

D- #57

APPROVED FOR RELEASE

6. Nothing of interest occurred during our Leningrad visit, and on the evening of 11 July we departed by train for Moscow. This 10 hour trip was uneventful except for one incident which took place when we were about one hour out of the Leningrad Station. I was looking out of the train window toward the east when I noticed two bright lights with gray smoke trails rising vertically into the air. Because of the poor visibility and the distance involved I could not tell whether the lights were propulsion flames of some sort or whether they were integral parts of larger objects. I could not judge the speed of ascent, nor could I tell how far away the objects were, but they remained in view, still in ascent, for about 10 minutes. I called them to the attention of the above-mentioned Intourist guide and he just laughed and said, "Maybe we're launching two more satellites."

7. We forgot the above incident until later in Moscow when the Russian speaking member of the tour and I were given a short sightseeing trip around the city by [redacted] official whom I shall call Ivanov and about whom I shall comment later. [redacted] companion remarked to Ivanov that we had seen two bright lights rising upward and asked him if he knew what they might have been. Ivanov was driving alone in the front seat of the car, and without turning he made a joking reference to Sputnik similar to the one made by our guide. When we told him that the lights appeared to be traveling too slowly to be rockets of that type he laughed again and said, "Well, maybe they were flying saucers." My friend, going along with the joke, said, "Stop kidding us Ivanov, we know what flying saucers look like." At this, Ivanov immediately pulled the car off the road, stopped, and turned around to face us, evidently flustered. "You do know what flying saucers look like?" he inquired. When [redacted] registered surprise at this concern he started the car up again and changed the subject completely. We did not discuss it with Ivanov or anyone else after that.

8.

9.

CENTRAL INTELLIGENCE AGENCY

TELETYPED INFORMATION REPORT

[redacted]

CLASSIFICATION	DISSEMINATION CONTROLS
[redacted]	[redacted]

TDCS-3/380,949 | DATE DISTR. 11 December 1958 | PRECEDENCE [X] ROUTINE

COUNTRY: USSR/India

PLACE ACQUIRED: [redacted]

SUBJECT: Unidentified Object Observed in the Sky

DATE OF INFORMATION: 6 December 1958

REFERENCES:

APPRAISAL OF CONTENT (EVALUATION): [redacted]

SOURCE: [redacted]

On 6 December 1958 between 1838 and 1840 local time source observed, by telescope, an artificial object having a continuous brightness of magnitude 3 (same as the Belt of Orion) cross his position (field of vision) while source was observing Mars. The object traveled north to south. There was no sign of disintegration, smoke, flame, or noise. There was no sign of any fall. Source did not photograph the object, but he is sure that the object was identical with Sputnik III. Subsequent observations proved negative.

Headquarters Comment: A preliminary check showed that Sputnik III was not within source's area of visibility at the time indicated, nor is the direction cited in agreement with computed orbits. The carrier rocket for Sputnik III reentered the earth's atmosphere on 3 December 1958 according to a Soviet announcement.

Headquarters Comment: Evaluation requested of Air and OSI

Field Dissemination: None

End of Message

DISSEMINATION CONTROLS	CLASSIFICATION
[redacted]	[redacted]

TO: ACSI, AF, NAVY, JCS, OSD, STATE, NSA, [redacted]

CENTRAL INTELLIGENCE AGENCY

TELETYPED INFORMATION REPORT

[redacted]

CLASSIFICATION: [redacted]

DISSEMINATION CONTROLS: [redacted]

TDCS-3/380,949 | DATE DISTR. 11 December 1958 | PRECEDENCE [X] ROUTINE

COUNTRY: USSR/India

PLACE ACQUIRED: [redacted]

SUBJECT: Unidentified Object Observed in the Sky

DATE OF INFORMATION: 6 December 1958

REFERENCES:

APPRAISAL OF CONTENT (TENTATIVE): [redacted]

SOURCE: [redacted]

On 6 December 1958 between 1835 and 1840 local time source observed, by telescope, an artificial object having a continuous brightness of magnitude 3 (same as the Belt of Orion) cross his position [field of vision] while source was observing Mars. The object traveled north to south. There was no sign of disintegration, smoke, flame, or noise. There was no sign of any fall. Source did not photograph the object, but he is sure that the object was identical with Sputnik III. Subsequent observations proved negative.

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Headquarters Comment: Evaluation requested of Air and OSI

Field Dissemination: None

End of Message

DISSEMINATION CONTROLS: [redacted]

CLASSIFICATION: [redacted]

TO: ACSI, AF, NAVY, JCS, OSD, STATE, NSA, [redacted]

D - #59

BEFORE DISAPPEARING.

5. (FIELD COMMENT: OBJECT IMPACTED PRIOR TO REACHING THE CASPIAN.)

6. FIELD DISSEMINATION: NONE INDICATED.

END OF MESSAGE

25

INFORMATION REPORT / INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

[redacted]

COUNTRY	USSR (Kazakh SSR)	REPORT NO.	CS-3/429,841
SUBJECT	Rumored Unidentified Flying Objects in the Bary Ozek Region	DATE DISTR.	9 March 1960
		NO. PAGES	1
		REFERENCES	RD
DATE OF INFO.	1959		
PLACE & DATE ACQ.	[redacted]	FIELD REPORT NO.	

[redacted]

SOURCE: [redacted]

*According to a rumor in Bary Ozek [E 44-5], E 77-5] in 1959, glittering objects flying at high speed and accompanied by explosive sounds had frequently been observed in the desert region west of the town. It was believed that many Kazakhs and Tadzhiks had left the area out of superstitious fear of these flying objects.

6 Mar 7[illegible]

[redacted]

STATE	X	ARMY	X	NAVY	X	AIR	X	FBI		AEC	X		

INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

[redacted]

COUNTRY USSR (Kazakh SSR)

SUBJECT Rumored Unidentified Flying Objects in the Bury Ozek Region

REPORT NO. CS-3/429,841

DATE DISTR. 9 March 1960

NO. PAGES 1

REFERENCES NO

DATE OF INFO. 1959

PLACE & DATE ACQ. [redacted]

FIELD REPORT NO.

SOURCE [redacted]

*According to a rumor in Bury Ozek (E 44-23, E 77-51) in 1959, glittering objects flying at high speed and accompanied by explosive sounds had frequently been observed in the desert region west of the town. It was believed that many Kazakhs and Tadzhiks had left the area out of superstitious fear of these flying objects.

[redacted]

STATE	X	ARMY	X	NAVY	X	AIR	X	FBI		AEC	X		

[redacted]

D - #61

(145)

Executive Registry
II-742/a

~~33~~

6 FEB 1959

Mr. George Popovitch
The Unidentified Flying Objects Research Committee
P. O. Box 5242
Akron, Ohio

Dear Mr. Popovitch:

This is in reply to your letter of 21 January 1959 in which you quoted an earlier letter to this Agency on the subject of Unidentified Flying Objects. We have also reviewed the copy of the Fitzgerald Report which you enclosed.

In your letters you have asked a number of questions concerning the subject of unidentified flying objects, how these affect national security, and essentially whether information is being withheld from the public. Some six years ago when there was a question as to whether the rush of reported sightings occurring at that time might pose some threat to national security, a panel of experts was asked by higher authority to make an assessment of such possible threat. As you undoubtedly know from subsequent public information, this panel reached the conclusion that there was nothing inimical to our security in the matter. This conclusion was made public last year.

The total responsibility for the Government in dealing with UFO matters is vested in the U. S. Air Force and that is the department competent and responsible for answering the questions posed by organizations such as yours. This Agency has no jurisdiction or responsibility in this area and is therefore not in a position to supply the information you have requested.

Very truly yours,

FEB 3 9 12 AM '59 SIGNED

John S. Earman
Executive Officer

B3

Distribution:
Orig - addressee
1 - Mr. Earman
1 - Exec. Register
1 - DCI
1 - Chief [illegible]

B3

56

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FEB 3 9 12 AM '59 SIGNED

John S. Earman
Executive Officer

B3

Distribution:
Orig - addressee
1 - Mr. Earman
1 - Exec. Register
1 - DCI
1 - Chief ASD/SI w/ [illegible] OSI/PGStrong:mb (4 Feb. 1959)
2 - AD/SI

B3

56

B3

Copied From Nearly Illegible Original

145

[redacted]

5 MAR 1959

[redacted]

Major Donald E. Keyhoe, USMC (Ret.)
Director of NICAP
1536 Connecticut Avenue, N. W.
Washington 6, D. C.

Dear Major Keyhoe:

Receipt of your letter of February 12, 1959 is acknowledged.

I regret that I still have insufficient information upon which to base an appropriate answer to your question. However, I assume that the conversation you refer to concerns paragraphs 16 and 17 of your letter dated 13 March 1958. If so, my reply of 17 April 1958 furnishes all the information available on the subject.

Sincerely,

SIGNED

J. S. Earman
Executive Officer

CD/OO/[redacted] 5 Mar 59
Distribution:
Original - Addressee
1 - [redacted]
1 -
1 -
1 -

APPROVED FOR RELEASE
DATE [illegible]

D- #116

(151)

224

personal and confidential

2 JUL 1959

Mr. George Patrick Wyllie
863 Earlo Avenue, N.W.
Cleveland, Tennessee

Dear Mr. Wyllie:

Mr. Allen W. Dulles referred the book, "They Knew Too Much About Flying Saucers," and your letter to me, and asked that I return the book to you after I was finished with it.

We appreciate your interest and thank you for calling the material to our attention.

Sincerely,

Herbert Scoville, Jr.

Herbert Scoville, Jr.
Assistant Director

B3

Attachment:
Book

B3

OSI:FSD:CMMatthews:emb (30 Jun 59)
Distribution:
Orig w/book - fwd.
2 - AD/SI
1 - Director DCI

B3

Never ans.

2 JUL 1959

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663 Earlo Avenue, N.W.
Cleveland, Tennessee

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Herbert Scoville, Jr.

Herbert Scoville, Jr.
Assistant Director

B3

Attachment:
Book

B3

OSI:FSD:CMMathews:amb (30 Jun 59)
Distribution:
Orig w/book - fwd.
2 - AD/SI
1 - Director DCI

B3

151

(154)

1424 33rd Street, N. W.
Washington 7, D. C.
25 NOV 1959

B3

Dr. Thornton Page
Department of Astronomy
Wesleyan University
Middletown, Connecticut

Dear Dr. Page:

I was very interested in your letter of November 19th regarding the freshman papers on the subject of UFO's. I have checked with my people here who have followed this subject and they would be very much interested in having a chance to look these papers over. I am not at all sure what we could ultimately do with them and, in any case, I would suggest that, if you mention the papers being sent to Washington, you not identify the agency, but simply indicate that they are being reviewed by a part of the national defense establishment.

After we have had a chance to see the papers I will write you further concerning them. Thanks very much for bringing this matter to my attention.

Sincerely,

Philip G. Strong

B3

1424 33rd Street, N. W.
Washington 7, D. C.

25 NOV 1959

B3

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Wesleyan University
Middletown, Connecticut

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Sincerely,

Philip G. Strong

B3

154

(156)

1424 33rd Street, N. W.
Washington, D. C.
10 December 1959

Dr. Thornton Page
Department of Astronomy
Wesleyan University
Middletown, Connecticut

Dear Dr. Page:

In Mr. Strong's absence I should like to acknowledge receipt of the fourteen essays which you so kindly sent to him.

Mr. Strong had left instructions on the material and we shall return the essays and our comments as soon as possible.

Sincerely,

Alnora M. Belt (Secretary)

1424 33rd Street, N. W.
Washington, D.C.
10 December 1959

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Department of Astronomy
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Middletown, Connecticut

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Alnora M. Belt (Secretary)

156

(158)

file UFO's

1424 33rd Street, N. W. B3
Washington 7, D. C.

29 January 1960

Dr. Thornton Page
Department of Astronomy
Wesleyan University
Middletown, Connecticut

Dear Dr. Page:

As indicated in the letter of 10 December to you from my secretary, the fourteen essays by your freshmen students were passed on to the people in my shop who have been following the subject of flying saucers. I also have gone through some of them rather cursorily. We are not passing on comments on individual essays, but I would like to say that we have found the papers extremely interesting. Most of them reflect a solid intellectual attempt to evaluate the evidence and certainly do great credit to your group. The problem itself apparently remains a very stimulating one and one that is especially suitable for exercising the rational power of minds both young and old. Most of the students have done a good job in separating subjective views from objective reporting. It is interesting that with a fresh and energetic group involved no essentially new substantiating positions emerged from the exercise.

It was very good of you to pass these on to us. It has been stimulating to our people to see this harried problem viewed again through new eyes. Kindest regards.

Sincerely,

Philip G. Strong

B3

1424 33rd Street, N. W.
Washington 7, D. C.

B3

29 January 1960

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Department of Astronomy
Wesleyan University
Middletown, Connecticut

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Sincerely,

Philip G. Strong

B3

Enclosure:
14 Essays (w/orig only)
Distribution: 2 - fwd 1 - ASD 2 - DAD/C
PGS:lh (29 Jan 60)

158

(165)

13 DEC 1960

Miss Coral Lorenzen
International Director
Aerial Phenomena Research Organization
4407 East Linden
Tucson, Arizona

Dear Miss Lorenzen:

We have referred your letter with the enclosure to Lt. Colonel Lawrence Tacker, U. S. Air Force, who is our contact point and responsible for matters regarding unidentified aerial phenomena.

Concerning the last sentence of our letter to Congressman Scherer, there was a typing error in which a word was omitted; the last clause should have read, "which has already been provided by the Air Force."

Sincerely,

SIGNED

John S. Warner
Legislative Counsel

B3
B3

OGC/LC:JSW:jmd:mks (13 Dec 60)
Distribution:
Orig & 1 - Addressee
1 - OSI
1 - Leg. C. Subject
1 - Leg. C. Chrono.

Miss Coral Lorenzen
International Director
Aerial Phenomena Research Organization
4407 East Linden
Tucson, Arizona

Dear Miss Lorenzen:

We have referred your letter with the enclosure to Lt. Colonel Lawrence Tacker, U. S. Air Force, who is our contact point and responsible for matters regarding unidentified aerial phenomena.

Concerning the last sentence of our letter to Congressman Scherer, there was a typing error in which a word was omitted; the last clause should have read, "which has already been provided by the Air Force."

Sincerely,

SIGNED
John S. Warner
Legislative Counsel

B3
B3

OGC/LC:JSW:jmd:mks (13 Dec 60)
Distribution:
Orig & 1 - Addressee
1 - OSI
1 - Leg. C. Subject
1 - Leg. C. Chrono.

165

A.7

GUIDANCE TO UFO PHOTOGRAPHERS

1. Have camera set at infinity.

2. Fast film, such as Tri-X, is very good.

3. For moving objects shutter speeds not slower than one hundredth of a second should be used. Shutter and f-stop combination will depend upon lighting conditions; dusk, cloudy day, bright sunlight, etc. If your camera does not require such settings, just take pictures.

4. Do not move camera during exposure.

5. Take several pictures of the object; as many as you can. If you can, include some ground in the picture of the UFO.

6. If the object appears to be close to you, a few hundred feet or closer, try to change your location on the ground so that each picture, or few pictures are taken from a different place. A change in position of 40 or 60 feet is good. (This establishes what is known as a base line and is helpful in technical analysis of your photography.) If the object appears to be far away, a mile or so, remain about where you are and continue taking pictures. A small movement here will not help. However, if you can get in a car and drive 1/2 to a mile or so and take another series of pictures this will help.

7. After pictures of UFO have been taken, remain where you are: now, slowly turning 360° take overlapping, eye level, photography as you turn around. By this technique the surrounding countryside will be photographed. This photography is very valuable for the analysis of the UFO you have just photographed.

8. Your original negative is of value. Be sure it is processed with care.

9. If you can, have another negative made from the original.

10. Any reproductions you have made for technical study and analysis should be made from the original negative and should be printed to show all the picture including the border and even the sprocket holes, if your film has them.

T-18

A.8

UFO PHOTOGRAPHIC INFORMATION SHEET

(TO BE FILLED IN)

1. Information on camera.

   Name of camera:

   Camera Manufacturer:

   Lense number and other data printed around lense:

   For the camera "bug"; what was the focal length of the lens-camera combination you were using?

2. Date pictures were taken:

3. Time of day pictures were taken (to the nearest minute, if you can):

4. Direction you were facing at the time of photography (North, South, East, West, etc.):

5. Your location at time of photography (indicate location on map, such as road map, and show direction you were facing when pictures were taken):

6. The direction of each 360 degree ground orientation picture: (this can easily be shown on a map or sketch).

7. Sketch of details of area where you were standing when photography was taken; include such things as telephone poles, fence posts, buildings, etc.:

8. Where was the original negative processed and when:

T-19

(152)

STANDARD FORM NO. 64

[redacted]

Office Memorandum • UNITED STATES GOVERNMENT

TO : Deputy Assistant Director, Collection, SI DATE: 26 January 1960

FROM : Chief, Applied Science Division, SI

SUBJECT: Flying Saucers--Student Papers Thereon Received from Dr. Thornton Page

1. The following comments are submitted for your information and use in replying to Dr. Page. The students' papers are returned herewith.

2. These student papers are in many respects interesting and most of them reflect a solid intellectual attempt to evaluate the evidence. The problem apparently remains a stimulating one, and especially suitable for exercising the rational powers of minds both young and old. Most of the students have done a good job in separating subjective views from objective reporting. It seems significant that no essentially new substantiating evidence emerged from this exercise.

W. E. LEROW

B3

Enclosures:
14 essays

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B3

W. E. LEXOW

Enclosures:
14 essays

[redacted]

157

(146)

Copyright?

~~126~~

[redacted]

FDD Note 891
March 1959

UFO's OBSERVED OVER NORWAY

file UFO

The following is the full text of an item which appeared in Oslo Conservative Aftenposten of 16 March 1959 (AM edition):

Several bright objects were observed in the sky near Bergen by several persons on the evening of 12 March.

According to Birger Storesund, of Storesund, near Bergen, there were five of the bright bodies, all of which crossed the sky from north to south. The first object, which was first seen at 2010 hours, took about two minutes to cross the sky and disappear beneath the horizon. In size and appearance, it could be compared to the Soviet sputniks. About five minutes later, object number two appeared, later to be followed by objects three, and four and five.

According to Storesund, several of his neighbors also saw the objects. No sound was to be heard from the objects.

Storesund's dog, which usually reacts to the presence of aircraft, paid no attention. The objects were also observed in binoculars.

UFO's OBSERVED OVER NORWAY file UFO

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Storesund's dog, which usually reacts to the presence of aircraft, paid no attention. The objects were also observed in binoculars.

[redacted]

146

(147) Unel. release (125) 22

FDD Note No 887

file 3001 March 1959

Flying Saucers Seen Over Sweden

"Eight Persons Saw Flying Saucer," Stockholm, Stockholms-Tidningen, 20 Jan 59, page 1

No less than eight reliable persons observed a "flying saucer" over Stigsjoe, near Haernoesand (Vaesternorrland Province) recently. The object approached the observers slowly from the south over [Lake] Laangsjoen at a height of about 300 meters. The object was round, 6 to 8 meters in diameter, and surrounded by a luminous ring about two meters wide. The under side of the object emitted a reddish yellow light. It was visible for about three minutes.

The incident has been reported to military authorities.

file. March 1959

Flying Saucers Seen Over Sweden

"Eight Persons Saw Flying Saucer," Stockholm, Stockholms-Tidningen, 20 Jan 59, page 1

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147

SENDER WILL CHECK CLASSIFICATION TOP AND BOTTOM

UNCLASSIFIED	CONFIDENTIAL	SECRET

CENTRAL INTELLIGENCE AGENCY

OFFICIAL ROUTING SLIP

TO	NAME AND ADDRESS	INITIALS	DATE
1	[redacted]		
2	Assistant to the Director [redacted]		
3			
4			
5			
6			

	ACTION		DIRECT REPLY		PREPARE REPLY
	APPROVAL		DISPATCH		RECOMMENDATION
	COMMENT		FILE		RETURN
	CONCURRENCE		INFORMATION		SIGNATURE

Remarks:

Hughes's insistence in pursuing this matter re-enforces my conviction that it would be unwise to [redacted] Ultimately we may have to give in but let us try once more to make him out.

cc: Index (Control)

FOLD HERE TO RETURN TO SENDER

FROM: NAME, ADDRESS AND PHONE NO.	DATE
[redacted] Chief, Contract Division	20/2/79

UNCLASSIFIED	CONFIDENTIAL	SECRET

FORM NO. 237 Replaces Form 30-4 (40)

APPROVED FOR RELEASE
DATE 24 Nov 78

D- #115

(49)

1424 33rd Street, N. W.
Washington 7, D. C.
26 March 1959

Dr. Thornton Page
319 Washington Terrace
Middletown, Connecticut

Dear Doctor Page:

I have just received a copy of your letter of 13 March to Mr. Fred A. Kirsch and I appreciate very much your keeping me current on your correspondence concerning UFO's.

Your letter is a masterpiece and I wish that earlier in this latest go-round of flying saucers' correspondence we had taken the very same down-to-earth approach that you have done in this letter. We still are besieged, though on a diminishing scale, with people who write us on this matter and I am afraid that in the future I am going to plagiarize from you.

Kindest personal regards.

Sincerely,

Philip G. Strong

Distribution:
Orig - addressee
2 - ASI (Lexow) w/2 thermos 18 Mar letter
~~1 - AD/SI w/1 thermo 18 Mar letter~~
(1) - UFO Project file w/carbon of 18 Mar letter
1 - DAD/C/SI w/thermo of 18 Mar letter

1424 33rd Street, N. W.
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26 March 1959

B3

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B3

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OSI:PGStrong:eb (26 Mar 59)

UFO file B3

B3

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22 JAN 1958

MEMORANDUM FOR: Assistant to the Director

[redacted]

THROUGH: Deputy Assistant Director for Oper[redacted]

SUBJECT: Inquiry by Major Donald E. Keyhoe [redacted]

1. Apparently Major Keyhoe is persisting in his effort to find out if a CIA agent told witnesses of unidentified flying objects not to make public information about their sightings. As background the following is a quotation from his 13 March 1958 memorandum to the DCI:

> "We also should like to know whether it is true that in one or more cases agents of the CIA have told UFO witnesses not to make public information in regard to their sightings?
>
> "We have one report to the effect that a witness was interrogated recently about a sighting which involved a photograph and that he was peremptorily told not to make this matter public or reveal the fact that he had been interrogated by CIA representatives. If this is not true we should like to know, so that we can assess the value of any similar reports. If it is true - and the witness has said he can name the two CIA agents involved - then we should like to know on what authority he was ordered to keep silent. Since the Air Force states there is no security involved and I have personally been assured by Air Force officers and by high-ranking Naval Academy classmates of my own that I was in no way doing a disservice to the country by my own revelations, I am seriously concerned - as is our Board - with this apparent censorship. If it does exist, we should like to know under what laws, and by what authority, it has been established, and also the reasons for requesting witnesses to keep silent."

The 13 March memorandum was referred to the AD/O by the AD/SI for comment; a copy of our reply is attached.

2. In addition, [redacted] is a CD/OO staff employee assigned to [redacted]. On 12 December 1957 he contacted [redacted]

[redacted]

SUBJECT: Inquiry by Major Donald E. Keyhoe [redacted]

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The 13 March memorandum was referred to the AD/O by the AD/SI for comment; a copy of our reply is attached.

2. In addition, [redacted] is a CD/OO staff employee assigned to [redacted] On 12 December 1957 he contacted [redacted]

[redacted]

APPROVED FOR RELEASE
DATE 24 Nov 75

D - #111

[redacted] to return five photographs of alleged UFO's which were obtained, 7 November 1957, by [redacted] a CD/OO employee [redacted] in response to an OSI requirement [redacted]. While [redacted] was returning the photos [redacted] asked if he might mention on a TV program that an intelligence organization had viewed the pictures and thought they were of interest. [redacted] reply was negative. [redacted] then asked if he could write a letter to the DCI asking his evaluation of the photos and ask his permission to present the resulting material on TV. [redacted] replied that [redacted] would have to make his own decision about writing such a letter. This completed the interview.

3. We understand that [redacted] who has a reputation [redacted] as possibly being overenthusiastic about UFO's, is well and favorably known to Major Keyhoe, and therefore, we believe that [redacted] has disclosed his contact [redacted] to Keyhoe. If so, it appears that either [redacted] may have misinterpreted [redacted] remarks or that Keyhoe may have misunderstood [redacted] story, or a combination of the two.

4. Normally, since our field representatives are overt and carry credentials identifying their association with the Agency, we respond affirmatively to any outside inquiries. In this case it seems that Keyhoe, [redacted] wants [redacted] to prove a CIA agent told a UFO witness not to make his information public.

5. Two possibilities for reply suggest themselves: (1) [redacted] (2) explain to Keyhoe that we do not normally provide the kind of information he wants in the absence of a reason for the inquiry and ask him why he wants to know. This might smoke out a reply leading back to his contention that a CIA agent told a UFO witness not to make public his information, and further that he has reason to believe [redacted] was the agent. Should this occur Keyhoe could then be referred to Mr. Darman's memorandum to him on 17 April 1958 which explained that Agency records had been checked and revealed that no CIA employee at any time had ordered any UFO witness to remain silent about his observation. [redacted]

[redacted]

6. We recommend that the second alternative above be tried first and base future action on Kayhoe's reply. A suggested draft reply is attached.

[redacted]
Chief, Contact Division
Office of Operations

Enclosures:
As Stated

cc: DAD/O

Distribution:
Orig & 1 - Addressee
1 - Chief [redacted]
1 - Index (Control)

[redacted]

[redacted]

DRAFT

Major Donald E. Keyhoe, USMC (Ret)
Director of NICAP
1536 Connecticut Avenue, N. W.
Washington 6, D. C.

Dear Major Keyhoe:

Thank you for your letter of January 12th.

As you can readily understand we do not normally pass, outside of official channels, either affirmative or negative information in response to an inquiry such as yours. Would it be possible for you to tell us why you require the information, so that we may have a basis for an appropriate reply.

Sincerely,

J. S. Burman
Executive Officer

C/OO: [redacted] (22 Jan 59)

ES GOVERNMENT

TO
ATTN: [redacted]

DATE: 16 December 1960

FROM : Chief, Detroit Office

SUBJECT: Sighting of Unusual Object [redacted]

1. If the USAF is still interested in unidentified objects in the sky they may be interested in the following report given to us by [redacted]

2. "At about 6:54 pm Wednesday, 14 December 1960, I had the radio on and was listening to a program (the second three star report which would fix the exact time). I looked out to the left (about due east) and saw an object that looked like a meteor except that it was extremely large and almost like a disc, not like a point of light. It was a greenish light (just off white), but green and quite visible to me. I may not have picked it up as soon as it appeared but it was visible to me at an angle of an elevation of about 50 to 55 degrees and it came down to within about 20 degrees elevation. Of course it is impossible to estimate distance as I didn't know what I was looking at, my first impression was that it would land in the Detroit River. It was moving at an angle to the vertical of about 10 degrees, running off to the right or the south. It eventually burned out before it got to the ground. The thing which astonished me about it was that it is not the meteorite season and it was much bigger than anything I had ever seen. It was definitely incandescent, and of a very high temperature [redacted]

3. "During my class a little hter I asked if any of the students had seen this object. Out of 25 in the class, [redacted] was the only one who saw it. He said he was going east on Hines Drive. He thought it was going to land at the end of Hines Drive. Hines Drive runs east and west. He said he was about two or three miles west of Telgraph and when asked about where it was going to land he said about Telegraph. Telegraph is about three miles west of where I was, so that means he judged that it was closer. This error in his estimate verifies that it must have been a sizeable object because it was east of me and it looked big to me. He said he was driving fairly fast when he saw it, but had exactly the same impression I did. [redacted]

4. "Another student [redacted] who was not in my class last night, said he saw it. However, I have not had an opportunity to question him.

5. "This was not flying saucer stuff. I say that only in the sense that I have worked all my life with high temperatures. I am a doctor here in dynamics and physics and I know a high temperature when I see it. That's why I would say the object was way up in temperature. I thought it might be related to some part of a missile or something similar. It was going at a high velocity and had to in order to reach the temperature it was at."

[redacted] [redacted] [redacted]

APPROVED FOR RELEASE
DATE 24 Nov 78

#117

(159)

[redacted]

UFO

FDD Note 1107

17 March 1960

UFO'S Sighted, Photographed in Sweden; Unidentified Satellite Seen

The full text, with the exception of the final paragraph, of an article on pages 1 and 8 of the 8 March 1960 issue of the Stockholm daily, Dagens Nyheter, is given below. The article, which was entitled: "Light in Sky New Satellite, Experts Believe", was accompanied by a photograph of the two UFO's sighted by Esse Jansson mentioned in the article.

"The luminous object which was observed shortly after 2000 hours on 6 March by the crew of the Sundsvall plane of Linjeflyg [Swedish airline], was, judging from all the circumstances, a hitherto unidentified satellite. The point of light was also observed from the observatory in Saltsjoebaden.

" 'I made the discovery just before the object disappeared below the northwest horizon, states Docent Gunnar Larsson-Leander [presumably of the observatory]. It seemed to be a satellite and I am sure that it was not a shooting star or meteor.'

"Two unidentified flying objects were observed and photographed on the morning of 6 March by photographer Esse Jansson of Norrtaelje. He states that he had gone out into a field early in the morning to photograph the unidentified satellite, 1960 Alpha, which was expected

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"Two unidentified flying objects were observed and photographed on the morning of 6 March by photographer Esse Jansson of Norrtaelje. He states that he had gone out into a field early in the morning to photograph the unidentified satellite, 1960 Alpha, which was expected

159

to pass the Stockholm latitude in a southerly direction about 0525 hours. Between 0515 and 0527 hours he observed two objects which came from the north and were moving in a southeasterly direction. Their movement was slow but otherwise initially was not entirely unlike that of the satellites he had seen before. Suddenly, however, the direction of movement changed, and the objects turned such that they were going back in the same direction they came from. On one of his plates he even caught a third luminous object of the same kind.

"It has not been possible to determine whether the observation is purely an optical illusion or not. It can be added, however, that a resident of Bromma, Thorsten Haakansson, reports that between 0528 and 0543 hours on 6 March he saw the so-called phantom satellite, 1960 Alpha, with binoculars through a window facing on the west. But in his case also the satellite moved a little peculiarly as seen from the observer's location: 'I observed the satellite in the north-northwest and it was moving in a horizontal direction . . . . (but) then it went straight down at a right angle and disappeared.'"

The sighting by the crew of the Sundsvall-bound airplane mentioned above was originally reported in Dagens Nyheter of 7 March, page 9, under the title "Moving Light Phenomenon Is Believed to Be Satellite". The full text of that article follows.

"According to a radio report to Midlanda Airport outside

Sundsvall, an unidentified luminous object, probably a satellite, was sighted from one of Linjeflyg's regular planes en route from Stockholm to Sundsvall.

"Air Captain Mauritz Hamrin, captain of Linjeflyg's regular evening plane to Sundsvall, said late in the evening of 6 March that, 'It was just after 2000 hours Swedish time that Copilot Kjell Ferm reported a bright luminous object on a generally north-westerly course.' He [Hamrin] thinks that there is hardly any great doubt that it was some form of satellite.

"Light phenomena which may originate from a satellite have also been observed over Stockholm. It was reported to Dagens Nyheter from Lidingoe that on two evenings in succession a moving point of light had been observed at 2230 hours in a south-southwesterly direction and 15 to 20 degrees above the horizon."

TELEGRAM INFORMATION REPORT TELEGRAM

CENTRAL INTELLIGENCE AGENCY

[redacted]

CLASSIFICATION — DISSEMINATION CONTROLS

[redacted]

COUNTRY	IRAN	REPORT NO.	TDCS -3/444,215
SUBJECT	UNIDENTIFIED FLYING OBJECT SIGHTED AT BENSHAHR	DATE DISTR.	20 JULY 1960
		PRECEDENCE	ROUTINE
DATE OF INFO.	17 JULY 1960	REFERENCES	IN 26714
PLACE & DATE ACQ.	[redacted]		
APPRAISAL		FIELD REPORT NO.	

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

1. AN UNIDENTIFIED FLYING OBJECT WAS SIGHTED AT APPROXIMATELY 1620 GREENWICH MEAN TIME ON 17 JULY 1960 TRAVELLING IN A SOUTHEAST TO NORTHWEST DIRECTION OVER BENSHAHR, IRAN (36° 46' N - 53° 34' E). THE OBJECT WAS IN VIEW AN ESTIMATED 15 TO [illegible] SECONDS. SEVERAL INDIVIDUALS WHO SAW THE OBJECT STATED THAT AFTER PASSING OVER BENSHAHR, IT MADE A GRADUAL TURN WEST BEFORE BURNING OUT. ALL WHO SAW THE OBJECT AGREED THAT IT APPEARED TO BURN OUT BEFORE DISAPPEARING OVER THE HORIZON.

2. SPEED WAS SUB-SONIC AS HEARD BEFORE SIGHTING; SOUND OF VARIABLE PITCH LIKE AIR PASSING THROUGH TUBE OR PIPE.

3. TRAJECTORY: LOW AND QUITE FLAT BUT HEADING DOWNWARD. SHAPE DESCRIBED AS CONICAL. ILLUMINATION: BRIGHT AQUAMARINE-COLORED WITH WHITE AND RED TAIL.

4. ONE PERSON WHO SAW THE OBJECT CLAIMS THAT IT APPEARED TO BREAK IN TW

CLASSIFICATION — DISSEMINATION CONTROLS

[redacted] [redacted] / [redacted]

STATE	ARMY/ACSI	NAVY	AIR	JCS	SECDEF	NSA	NIC	USIA	[redacted]

TELEGRAM INFORMATION REPORT TELEGRAM

APPROVED FOR RELEASE
DATE [illegible]

TELEGRAM | INFORMATION REPORT | TELEGRAM

CENTRAL INTELLIGENCE AGENCY

[redacted]

CLASSIFICATION — DISSEMINATION CONTROLS

[redacted]

COUNTRY	IRAN	REPORT NO.	TDCS-3/444,215
SUBJECT	UNIDENTIFIED FLYING OBJECT SIGHTED AT BENSHAHR	DATE DISTR.	20 JULY 1960
		PRECEDENCE	ROUTINE
DATE OF INFO.	17 JULY 1960	REFERENCES	IN 26714
PLACE & DATE ACQ.	[redacted]		
APPRAISAL	THIS IS UNEVALUATED INFORMATION	FIELD REPORT NO.	
SOURCE	[redacted]		

1. AN UNIDENTIFIED FLYING OBJECT WAS SIGHTED AT APPROXIMATELY 1600 GREENWICH MEAN TIME ON 17 JULY 1960 TRAVELLING IN A SOUTHEAST TO NORTHWEST DIRECTION OVER BENSHAHR, IRAN (36° 46' N - 53° 34' E). THE OBJECT WAS IN VIEW AN ESTIMATED 15 TO [illegible] SECONDS. SEVERAL INDIVIDUALS WHO SAW THE OBJECT STATED THAT AFTER PASSING OVER BENSHAHR, IT MADE A GRADUAL TURN WEST BEFORE BURNING OUT. ALL WHO SAW THE OBJECT ASSERTED THAT IT APPEARED TO BURN OUT BEFORE DISAPPEARING OVER THE HORIZON.

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CLASSIFICATION — DISSEMINATION CONTROLS

[redacted]

STATE	ARMY/ACSI	NAVY	AIR	JCS	SECRET	NSA	NSC	USIA	[redacted]

TELEGRAM | INFORMATION REPORT | TELEGRAM

APPROVED FOR RELEASE
DATE [illegible]

D- #62

INFORMATION FIELD REPORT

CENTRAL INTELLIGENCE AGENCY

[redacted]

COUNTRY USSR (Ukraine)

REPORT NO. CS-3/414,903

SUBJECT 1. [redacted]
2. Possible Unidentified Flying Object
3. [redacted]

DATE DIST. 22 October 1959

NO. PAGES 5

REFERENCES RD

DATE OF INFO. Late August - Early September 1959

PLACE & DATE ACQ. [redacted]

FIELD REPORT NO.

SOURCE

1.

2.

3.

4.

5.

6.

[redacted]

[redacted]

COUNTRY USSR (Ukraine)

REPORT NO. CS-3/414,903

SUBJECT 1. [redacted]

2. Possible Unidentified Flying Object

3. [redacted]

DATE DISTR. 22 October 1959

NO. PAGES 5

REFERENCES PD

DATE OF INFO. Late August - Early September 1959

PLACE & DATE ACQ [redacted]

FIELD REPORT NO [redacted]

SOURCE:

1.

2.

3.

4.

5.

6.

[redacted]

STATE	X	ARMY	X	NAVY	X	AIR	X	FBI		AEC					

[redacted]

[redacted]

D-

6 Nov 78

#60

[redacted]

CS-3/414,903

7.

8.

9.

10.

11. At about 2030 hours a luminous orange ball was sighted on the left of the train. It appeared to be in flight and vanished while in the air. It was visible for a short time only and no additional information was obtained concerning it.

12.

13.

[redacted]

JJJJ 2
JJJJ 3
JJJJ 3
JJJJ 3
JJJJ 4
JJJJ 4

KKKK 1
KKKK 1

kkkk 2
kkkk 2
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A

July 1965

PUNITIVE STEPS AGAINST EXTREMIST ASKED

Havana PRENSA LATINA in Spanish 2140 GMT 5 July 1965--E ~~(FOR OFFICIAL USE ONLY)~~

(Excerpt) Buenos Aires, 5 July--While rumors of a coup are increasing, the government, in a McCarthy-like campaign launched in recent weeks by several reactionary groups, has just taken the first official step toward repressing the leftwing forces by means of a resolution which lumps together the fascist organizations and the Communist Youth Federation. Interior Minister Juan Palmero issued a resolution which demands that the Justice Ministry take punitive measures against the members and supporters of the Tacuara nationalist movement, its Nationalist Students Union branch, the Nationalist Restoration Guard, and the Communist Youth Federation (FJC).

According to a special report issued by the federal police upon the request of the ministry, the resolution is based upon the charge that the organizations are acting as "veritable lawless associations" in "carrying out violent actions." It is also planned to instruct the federal police to give the utmost cooperation to the Justice Department in order to investigate the facts and, when necessary, to arrest the perpetrators.

- 0 -

MEATPACKING INDUSTRY CRISIS--Buenos Aires--Two of the largest meatpacking plants in Argentina, Swift and Armour, have reduced their operations, claiming that the Argentine currency they receive for their imports does not cover the costs of meat prices in the domestic market. Numerous workers have been fired as a result of this reduction in operations, thus compounding the meatpacking crisis. (Buenos Aires ANSA Spanish 0126 GMT 6 July 1965--P) Sources close to the Argentine economic cabinet have reported that the restriction of meat consumption will ban the handling and consumption of meat on Fridays and Saturdays instead of Mondays and Tuesdays. Exports will be stepped up, exempting steers for export from taxes. The economy minister has received a committee representing the 8,000 meatpeacking industry workers affected by a decline in operations, assuring them that the government is considering measures to reactivate those industries to promote exports of meat and its byproducts. (Buenos Aires ANSA Spanish 1556 GMT 6 July 1965--P) ~~(FOR OFFICIAL USE ONLY)~~

RELATIONS WITH ALGERIA--The Argentine Foreign Ministry has unofficially announced that Argentina will continue to have diplomatic relations with Algeria. An official communique will be issued in a few days. (Buenos Aires ANSA Spanish 1556 GMT 6 July 1965--P) ~~(FOR OFFICIAL USE ONLY)~~

ANTARCTIC FLYING SAUCERS--A group of red, green, and yellow flying saucers has been seen flying over Decepcion Island for two hours by Argentine, Chilean, and British bases in Antarctica. The flying saucers were also seen flying in formation over the South Orkney islands in quick circles. (Buenos Aires ANSA Spanish 1556 GMT 6 July 1965--P) ~~(FOR OFFICIAL USE ONLY)~~

CRUDE OIL IMPORTS- It has been learned that the Argentine YPF has announced that bids from private companies will be received for the purchase of 1 billion cubic meters of crude oil. (Lima AFP Spanish 1835 GMT 6 July 1965--P) ~~(FOR OFFICIAL USE ONLY)~~

T-4

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ARGENTINA
25 May 1962

COMMUNISTS APPEAL FOR POPULAR FRONT

Havana PRENSA LATINA in Spanish to Latin America 0341 GMT 25 May 1962--S
~~(OFFICIAL USE ONLY)~~

(Text) Buenos Aires--The Argentine Communist Party released a declaration in which it appeals to trade unions and several parties to unite to form a strong national popular front in order to prevent the consolidation of the dictatorship. The declaration says that the present regime has definitively been unmasked "in the face of world opinion as well as the (country's)," and that the civil-military dictatorship of a fascist type, imposed on the country by the reactionary groups of the armed forces, serves the interests of the monopolies, especially the Yankees, and the landholding oligarchy.

The document says that only the mobilization and action of the masses can foil the consolidation of this dictatorship.

-0-

UNIDENTIFIED FLYING OBJECTS--Buenos Aires--The appearance of unidentified flying objects over the city of Bahia Blanca, south of Buenos Aires, is causing the most varied comment among the people there. The most extraordinary occurrence was on 21 May when many people observed a strange luminous body suspended for several minutes over the city, and then saw it disappear quickly. A local photographer was able to take two pictures of the object, which looks like a luminous oval on the print. The Cordoba Astronomical Observatory is compiling data about this phenomenon which has been observed in other regions of Argentina, although not as clearly as in Bahia Blanca. The observatory has asked the public to submit their observations in order to determine whether the phenomenon was a cluster of meteorites, part of an artificial satellite, or due to other causes. (Lima AFP Spanish Latin America 0354 GMT 25 May 1962--W) A luminous object which was crossing the heavens above Bahia Blanca was photographed by a reporter of the local newspaper NUEVA PROVINCIA, according to that newspaper. The reporter was walking along the street when he first noticed the object. Seeing that it was not leaving the city, he drove to the Maldonado Canal, and there took several photographs, one the very instant the mysterious body stopped and changed its course. This was when the object was closest to earth. (Lima AFP Spanish Latin America 1525 GMT 24 May 1962--W)
~~(OFFICIAL USE ONLY)~~

T-5

INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

28 SEP 1966

[redacted]

COUNTRY	Iran/USSR	REPORT NO.	OO- B-321/15354-66
SUBJECT	Sighting of Unusual Phenomenon on horizon Near Iranian/USSR Border	DATE DISTR	28 SEP 66
		NO PAGES	2
		REFERENCES	[redacted]
DATE OF INFO	17 Jun 66	Responsive to	[redacted]
PLACE & DATE ACQ	[redacted]		

15546-60

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

1. On 17 Jun 66, at 2142 hours, local time, [redacted] Teheran, Iran, on an international flight, I observed a strange phenomenon on the horizon. As we were approaching the Rudeshur beacon, located approximately 25 miles WSW of Mehrabad Airport, Teheran, we suddenly observed a brilliant white sphere approximating the coloration and intensity of full bright moon. The sphere appeared suddenly and at the first sighting was approximately three times the size of a full moon. At the moment, we were flying at approximately 18,000 feet on a course of 070 degrees at a speed of about 200 knots. The sighting occurred just as we prepared to fly a circular pattern over the Rudeshur beacon prior to descending to a lower altitude and heading for Mehrabad Airport. We observed the sighting throughout the time we circled the Rudeshur beacon, a time we later calculated to be of four to five minutes duration. I would estimate the position of the sphere to be on a heading of 010 degrees and deep within the Soviet Union, perhaps north of 60 degrees latitude. During the four to five minutes that I observed the sphere, it continued to grow in size as its intensity diminished. Toward the end of this period it became very faint and its enormous size seemed to fill the sky. The base of the sphere appeared to rest on the horizon throughout the period it was observed, indicating that the center of the sphere was rising during the time that it was expanding. The weather conditions were excellent and the unusually clear sky afforded unlimited visibility.

2. Another airliner at a slightly lower altitude also observed the phenomenon and we exchanged remarks about it. On landing at Mehrabad Airport some 20 minutes later, we discovered that the phenomenon was not seen from the ground except possibly during the very last stages. At that point, since the intensity had so markedly diminished, it would go unnoticed unless

[redacted]

INFORMATION REPORT INFORMATION REPORT

COUNTRY: Iran/USSR

SUBJECT: Sighting of Unusual Phenomenon on horizon Near Iranian/USSR Border

REPORT NO. CO- B-321/1535A-66

DATE DISTR 28 SEP 66

NO PAGES 2

REFERENCES [redacted]

Responsive to: [redacted]

155446-60

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[redacted]

INFORMATION REPORT [redacted] ON REPORT

[redacted]

APPROVED FOR RELEASE
DATE ...

D-(#63)

unless one were alerted to look for it. The reason for its being obscured from the ground is attributed to the abrupt rise of the very high mountain range north of the city in the direction of the phenomenon.

3. I don't know what caused this strange occurrence which we observed. I had never seen anything resembling it in over 20 years of flying experience. One theory advanced to me was that the sphere was a "false moon" and that such a phenomenon was seen near Rome, Italy. My feeling is that the sphere was formed by gases emanating perhaps from a man-made explosion. These gases forming the sphere may have been illuminated by the sun from the back side. If this were the case, it would account for the diminishing intensity as the density of the gases decreased with the expansion of the sphere.

- and -

(166)

OAI I Private
File Copy - UFO's

10 JAN 1961

Lt. Colonel Lawrence J. Tacker
Office of Information
United States Air Force
Washington 25, D. C.

Dear Colonel Tacker:

It was very thoughtful of you to send me the inscribed copy of your new book on flying saucers. I certainly agree with the pious hope that publication of this book will do much to clear up the confusion about UFO's. I read about half the book last night and found it extremely interesting and well presented. Unfortunately, there seems to be a fair sized "lunatic fringe" that will never be really convinced of Air Force objectiveness and forthrightness on this subject. In any case, I hope that the book will be a huge success.

Again, many thanks for sending it to me. Kindest personal regards.

Sincerely,

Philip G. Strong

B3

Philip G. Strong
Brigadier General (Ret'd)

B3

OSI/OAD/PGStrong:lh (10 Jan 61) 3758
Distribution:
2 - Addressee
2 - DAD/C

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Brigadier General (Ret'd)

OSI/OAD:PGStrong:lh (10 Jan 61) 3758

B3

Distribution:
1 - Addressee
2 - DAD/C

166

(168)

UFO's

5 APR 1961

Mr. Robert J. Palmer
Research Editor
The Americana Institute
575 Lexington Avenue
New York 22, N. Y.

Dear Mr. Palmer:

In reference to your 21 February query (No. A123209-ST), please be advised that all governmental responsibility for Unidentified Flying Objects has been charged to the Air Force.

We regret that we are unable to be of specific assistance to you in this matter.

Very truly yours,

Philip G. Strong
Deputy Assistant Director

Distribution:
Orig. & 1 - Fwd
2 - DAD/C/SI
2 - ASD
1 - W Branch

OSI/ASD/JSHeckert:dv(8791)

B3

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2 - DAD/C/ST
2 - ASD
1 - W Branch

OSI/ASD/FSHeckenthaler(8791)

B3

168

(9)

Honorable Joseph E. Karth
House of Representatives
Washington 25, D. C.

Dear Mr. Karth:

In response to your 30 June inquiry concerning statements made by Dean Davidson in his 25 June letter to you, please be advised that Mr. Davidson has been involved in rather extensive correspondence with this Agency and with the Air Force since early 1956 on the matter of UFO's.

Mr. Davidson believes that the Central Intelligence Agency is withholding information from him which would prove that this Agency is, to quote his letter to you ". . . solely responsible for creating the Flying Saucer Furore. . . ." He believes further that this information is contained in the Scientific Advisory Panel Report on UFO's, dated 17 January 1953, (Secret). Mr. Davidson was supplied with the declassified and "Official" version of this report, but this apparently has only served to convince that what is being withheld is information which would prove his claim. This is in spite of the fact that he was informed as long ago as 30 May 1956 that "the complete formal report of the Panel has not been fully declassified for security reasons. The Formal Report is not available to the general public for distribution or reproduction," and "For your information, the classified portion of the Formal Report and the unofficial supplement did not deal specifically with UFO's but on other matters of intelligence significance which affect the national security." In addition, Major Tacker went to great length, in this four page letter, outlining to Mr. Davidson all of the information currently available on the subject of UFO's interpreting the Formal Report of the Scientific Advisory Panel, commenting on erroneous or

Letter from Major Lawrence J. Tacker, U.S. Air Force Executive Officer, Public Information Division, Office of Information Services

Honorable Joseph E. Karth
House of Representatives
Washington 25, D. C.

Dear Mr. Karth:

In response to your 30 June inquiry concerning statements made by Leon Davidson in his 26 June letter to you, please be advised that Mr. Davidson has been involved in rather extensive correspondence with this Agency and with the Air Force since early 1958 on the matter of UFO's.

Mr. Davidson believes that the Central Intelligence Agency is withholding information from him which would prove that this Agency is, to quote his letter to you ". . . solely responsible for creating the Flying Saucer Furore. . . ." He believes further that this information is contained in the Scientific Advisory Panel Report on UFO's, dated 17 January 1953, (Secret). Mr. Davidson was supplied with the declassified and "Official" version of this report, but this apparently has only served to convince that what is being withheld is information which would prove his claim. This is in spite of the fact that he was informed as long ago as 29 May 1958 that "The complete formal report of the panel has not been fully declassified for security reasons. The Formal Report is not available to the general public for distribution or reproduction," and "For your information, the classified portion of the Formal Report and the unofficial supplement did not deal specifically with UFO's but of other matters of intelligence significance which affect the national security." In addition, Major Tacker went to great length, in this four page letter, outlining to Mr. Davidson all of the information currently available on the subject of UFO's interpreting the Formal Report of the Scientific Advisory Panel, commenting on erroneous or

Letter from Major Lawrence J. Tacker, U.S. Air Force Executive Officer, Public Information Division, Office of Information Services

Copied From Nearly Illegible Original

misleading statements on this report in Captain Ruppelt's book, "The Report of Unidentified Flying Objects", and explaining why a portion of the report was classified. A copy of this letter is appended for your information.

In summary, Mr. Davidson's belief that this Agency is involved in the "Flying Saucer Furore" and is using this as a tool in psychological warfare is entirely unfounded. His indication that CIA is misguiding persons in leading them to believe in Flying Saucers is also entirely unfounded. This Agency in conjunction with the Air Force investigated, in 1953, the threat to national security of the then prevalent Flying Saucer rumors. Since that time, CIA has not participated in any Flying Saucer activities and has referred all correspondence to the U. S. Air Force.

Very truly yours,

Lawrence R. Houston
General Counsel

OK

Enclosures:
1. Letter, 26 June 1961, from L. Davidson
2. Letter, 20 May 1958, from Major Tucker

Distribution:
Orig. & 1 - Fwd
2 - General Counsel
1 - Inspector General
1 - AD/SI
2 - ASD/SI

OSI/ASD/[JSSeckert]:adv(8791) (b)(3)

DATE OF LETTER	FROM	TO	SUBSTANCE
11 March 1958	Davidson	DCI	Request for the Secret Panel Report.
14 April 1958	Exec/CIA	Davidson	Davidson's letter referred to Air Force.
27 April 1958	Davidson	DCI	Desires Secret report for public dissemination. (Air Force has action.)
15 May 1958	Davidson	Exec/CIA	Letter forwarded by Chapin to Air Force for reply with acknowledgment letter from Chapin to Davidson.
20 May 1958	Department of Air Force	Davidson	Answer to Davidson's letters of 27 April to Air Force and CIA. Attempts to clarify the purpose of withholding certain information for security reasons.
3 July 1958	Davidson	DCI	Inquires whether CIA is carrying out Sociological Warfare in creating UFO stories.
26 June 1961	Davidson	Congressman Karth	Accuses CIA of creating UFO furor and misleading persons such as Major Keyhue.

NOTE: In addition, we have on file letters from Mr. Davidson to Members of the 1953 Panel requesting in essence their supporting him in obtaining information which would implicate CIA or the OCB in a "1984 type of thought control developing in America."

(174)

DFO's

23 APR 1962

MEMORANDUM FOR: Headquarters
United States Air Force

ATTENTION: Major Carl R. Hart, SAFOI-3B

SUBJECT: Transmittal of Letter from
Thomas B. Scott, Jr.

Enclosed is the letter we received from the observer Mr. Lexow talked to you about on the telephone and a copy of the letter which we have sent to young Mr. Scott. B3

B3

Philip G. Strong

PHILIP G. STRONG
Deputy Assistant Director

Enclosures: 2
Letter from Young Mr. Scott
Reply to Scott dated 20 April 1962

Distribution:
2 - Addressee w/2 encls
2 - DAD/C w/1 encl
2 - ABCD/SI w/1 encl
2 - B-C/ABCD w/1 encl
OSI/Staff/Chapin:rh/6516 (20 Apr 62)

B3

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2 - B-C/ABCD w/1 encl
CSI/Staff:HChapin:rh/6516 (20 Apr 62)

B3

174

20 APR 1962

Mr. Thomas B. Scott, Jr.
Box 71
Lake View
South Carolina

Dear Mr. Scott:

Thank you very much for your letter describing your sighting of an object in the sky on 2 April 1962. This Agency is interested in these events; however, the United States Air Force is responsible for identifying all such objects in carrying out their defense activities. We therefore have forwarded your letter to the Air Force for appropriate action.

Very truly yours,

Philip G. Strong

B3

Philip G. Strong
Deputy Assistant Director

Distribution:
Orig & 1 - addressee
1 - USAF
2 - ABCD/SI
2 - BW/ABCD/SI
2 - DAD/C/SI

OSI:Staff:HChapin:rh/6516 (20 Apr 62)

B3

(2, 3)

11 FEB 1965

MEMORANDUM FOR: Assistant Director for Special Activities

SUBJECT: Unidentified Flying Object

REFERENCE: Attachments, 1 Feb 65

1. Detailed analysis of the [redacted] of 19 November 1964 and review of associated correspondence indicate that there was, in fact, no high altitude ultra-high-speed UFO north of [redacted] during the [redacted] period. There were, however, apparently valid traces and/or observations of unidentified aircraft in the vicinity of the [redacted] on 16, 17, 18, 19, and 24 November 1964.

2. Relative to the incident during the evening of 19 November, the US Navy F-8C pilot was able to distinguish the object as a delta shape about the size of a jet fighter, reported it as having much higher performance, and estimated object speed to be in excess of Mach 3. The [redacted] reported a radar track in excess of 3500 knots.

a. During this incident, [redacted] were taken of the [redacted] presentation. Analysis of these photographs show a good track in excess of 300 n.m. for the object in question. The object was flying a course of about 165° relative to the [redacted] at a relative speed of about 465 knots.

11 FEB 1965

MEMORANDUM FOR: Assistant Director for Special Activities

SUBJECT: Unidentified Flying Object

REFERENCE: Attachments, 1 Feb 65

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a. During this incident, [redacted] were taken of the [redacted] presentation. Analysis of these photographs show a good track in excess of 300 n.m. for the object in question. The object was flying a course of about 165° relative to the [redacted] at a relative speed of about 455 knots.

[redacted]

213

SUBJECT: Unidentified Flying Object

b. At the time, the [redacted] radar [redacted] was undergoing an evaluation test program -- hence, the use of a recording camera.

3. In view of the [redacted] and pilot observation, it is concluded that the so-called UFO on 19 November was probably a delta-wing fighter of a type having a significantly higher climb performance than the F-5C at the 50,000 foot altitude regime. Based on the limited information provided in the associated correspondence, other objects reported during the period of 16 to 24 November would appear to be unidentified aircraft.

4. Apparently, missile test firings were scheduled [redacted] during this time period, and it is conceivable that the area in question could have been an attractive target for reconnaissance. The [redacted] was located 325 n.m. from the eastern [redacted] during the 19 November incident, well within MiG-21 range. The USSR has a MiG-21 reconnaissance configuration [redacted] There is no evidence at hand to suggest or deny any MiG-21 reconnaissance activity based

Karl H. Weber

DONALD F. CHAMBERLAIN
Assistant Director
Scientific Intelligence

Attachment:
There are no attachments to [redacted]

Distribution:
Cy 1 & 2 - Addressee (w/attach)
Cy 3 & 4 - AD/SI
Cy 5 & 6 - DSD/SI
Cy 7 & 8 - ADD/DSD/SI

OK to release

OSI/DSD/ADS:WAGray:ldl/6621 (10 Feb 65)

MEMORANDUM FOR : Director, Photographic Intelligence Center

SUBJECT : Reported Photography of UFO's

REFERENCE : Your Memo PIC-7-58, dated 1 October 1958, Same Subject

1. Your referenced interesting memorandum has been reviewed thoroughly within this Office. Although my Applied Science Division assumes responsibility for UFO's, I considered it appropriate to refer this case to the Air Force wherein primary community responsibility lies. Referral was accomplished by forwarding a copy of your memorandum to AFCIN.

2. Your third paragraph opens an interesting question to which I am not at all certain I have the solution. Nevertheless, for you to procure Mr. Fine's photographs and determine more about his experiments, my suggestions are:

a. That you approach him perhaps as one interested in purchasing photographic research.

b. That you seek advice from the AD/O relative to other avenues of approach with which he may well be familiar.

HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

(181)

[redacted]

16 AUG 1963

Colonel Gerald E. Jorgensen
Chief, Community Relations Division
Office of Information
Department of the Air Force
Washington, D. C.

Attention: SAFOIC

Dear Colonel Jorgensen:

Consideration has been given to your request of 27 July 1963 for the declassification of the "Report of the Scientific Panel on Unidentified Flying Objects." The Office of Scientific Intelligence feels that the report, as originally drafted, cannot be downgraded. As an alternative, an unclassified version has been prepared which omits names of personnel and participating organizations, and we are agreeable to the release of this version. It should be noted that permission for release has not been obtained from persons or organizations involved in the original panel report, and that the panel members themselves agreed only to the release of the edited summary and conclusions indicated by Mr. P. G. Strong in his 20 December 1957 memorandum to AFOIN.

We are most anxious that further publicity not be given to the information that the panel was sponsored by the Central Intelligence Agency. Further, we cannot authorize the listing of personnel participating in the discussions in any unclassified release.

Sincerely,

Karl H. Weber
Deputy Director of
Scientific Intelligence

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Department of the Air Force
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Karl H. Weber

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Deputy Director of
Scientific Intelligence

Distribution
Orig. and 1 - Addressee
2 - DD/OSI
2 - IPS/OSI

OSI/IPS/[SSoland] HWeber [ncf:pam:5511] (18 August 1966)

B3

181

(175)

12 JUL 1961

Legislative Counsel

Assistant Director, SI

Reply to the Honorable Joseph E. Karth

1. In response to your 5 July request, a proposed reply to the Honorable Joseph E. Karth is attached.

2. As is indicated, we have received a number of letters from Mr. Davidson on the subject of Flying Saucers since 1958. We have in every case referred these letters to the Air Force for appropriate reply inasmuch as they are the Executive Agent in such matters. In each instance we have notified Mr. Davidson of such action.

3. Our file on this matter is rather extensive and should you have any additional questions, we would be pleased to attempt to answer them.

Philip G. Strong
for Herbert Scoville, Jr.

Attachment:
Reply to Honorable Joseph E. Karth

Legislative Counsel

Assistant Director, SI

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Herbert Scoville, Jr.

Attachment:
Reply to Honorable Joseph E. Karth

173

13 JUL 1961

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House of Representatives
Washington 25, D. C.

Dear Mr. Karth:

In response to your 30 June inquiry concerning statements made by Leon Davidson in his 24 June letter to you, please be advised that Mr. Davidson has been involved in rather extensive correspondence with this Agency and with the Air Force since early 1958 on the matter of UFO's.

Mr. Davidson believes that the Central Intelligence Agency is withholding information from him which would prove that this Agency is, to quote his letter to you ". . . solely responsible for creating the Flying Saucer furore. . . ." He believes further that this information is contained in the Scientific Advisory Panel Report on UFO's, dated 17 January 1953, (Secret). Mr. Davidson was supplied with the declassified and "Official" version of this report, but this apparently has only served to convince him that what is being withheld is information which would prove his claim. This is in spite of the fact that he was informed[a] as long ago as 20 May 1958 that "the complete formal report of the panel has not been fully declassified for security reasons. The Formal Report is not available to the general public for distribution or reproduction," and "For your information, the classified portion of the Formal Report and the unofficial supplement did not deal specifically with UFO's but on other matters of intelligence significance which affect the national security." In addition, Major Tacker went to great lengths, in this four page letter, outlining to Mr. Davidson all of the information currently available on the subject of UFO's, interpreting the Formal Report of the Scientific Advisory Panel, commenting on erroneous or

[a] Letter from Major Lawrence J. Tacker, U.S. Air Force Executive Officer, Public Information Division, Office of Information Services

misleading statements on this report in Captain Ruppelt's book, "The Report of Unidentified Flying Objects", and explaining why a portion of the report was classified. A copy of this letter is appended for your information.

In summary, Mr. Davidson's belief that this Agency is involved in the "Flying Saucer furore" and is using this as a tool in psychological warfare is entirely unfounded. His indication that CIA is misguiding persons in leading them to believe in Flying Saucers is also entirely unfounded. This Agency in conjunction with the Air Force investigated, in 1953, the threat to national security of the then prevalent Flying Saucer rumors. Since that time, CIA has not participated in any Flying Saucer activities and has referred all correspondence to the U. S. Air Force.

Very truly yours,

S/ Lawrence R. Houston

Lawrence R. Houston
General Counsel

Enclosures:
1. Letter, 26 June 1961, from L. Davidson
2. Letter, 20 May 1958, from Major Tacker
3. Letter, 21 May 1958

Distribution:
Orig. & 1 - Fwd
2 - General Counsel
1 - Inspector General
1 - AD/SI
1 - ASD/SI
1 - Exec Registry

OSI/ASD/JSReckert:mdw(8791) ~~(5)(3)~~

B-

(177)

refer to DD/S+T

DD/S&T 370/65

26 JAN 1965

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: Evaluation of UFO's

1. This memorandum is for your information in response to your request.

2. As you know, there has been a recent spate of reports of UFO's (unidentified flying objects) in news media. Widely publicized UFO reports during the past 18 months include: the July 1963 Sunnyvale, California, incident in which the UFO was later identified as an aircraft; the UFO's reportedly associated with the Gemini launching in April 1964 which probably were due to fragments causing radar reflection; and the Patuxent, Maryland, incident in December 1964, in which two objects were apparently tracked by radar, but later analysis attributed the sighting to malfunctioning radar circuitry. Evaluation of these and other reported phenomena reveals no evidence that UFO's are of foreign origin or are a threat to the security of the United States.

3. The Office of Scientific Intelligence/DD S&T monitors reports of UFO's, including the official Air Force investigation reports, and concurs with the Air Force conclusions, which are unclassified and available to scientific investigators. Of some 521 UFO reports investigated during 1964, only 3% are classed as unidentified; 11 investigations are still pending. Attached are the official Air Force statistics for the time period 1954-1963 by year and for 1964 by month.

[signature]

DONALD F. CHAMBERLAIN
Assistant Director
Scientific Intelligence

CONCURRENCE:

[signature]

2 [illegible]

26 JAN 1965

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3. The Office of Scientific Intelligence/ID SAT monitors reports of UFO's, including the official Air Force investigation reports, and concurs with the Air Force conclusions, which are unclassified and available to scientific investigators. Of some 1111 UFO reports investigated during 1964, only 6% are classed as unidentified; 11 investigations are still pending. Attached are the official Air Force statistics for the time period 1956-1963 by year and for 1964 by month.

DONALD F. CHAMBERLAIN
Assistant Director
Scientific Intelligence

CONCURRENCE:

(Deputy Director (Science and Technology))

2 FEB 1965
Date

Distribution:
Orig & 1 - Addressee
3 - ID/SAT
5 - [illegible]

177

STATISTICAL DATA FOR YEARS 1954 - 1963
(Compiled 1 Nov 64)

TOTAL CASES BY CATEGORY

	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	TOT
Astronomical	137	135	222	341	231	144	235	203	135	85	18[illegible]
Aircraft	80	124	143	217	105	53	66	75	67	73	10[illegible]
Balloon	63	105	93	113	57	30	22	37	19	24	5[illegible]
Insufficient Data	103	94	130	150	111	65	105	115	92	57	10[illegible]
Other	53	63	61	120	90	72	93	74	64	56	7[illegible]
Satellite	0	0	0	8	16	0	21	69	77	81	2[illegible]
Unidentified	43	23	12	16	11	13	14	12	15	13	1[illegible]
Total	437	543	669	1005	623	387	550	585	469	393	57[illegible]

ASTRONOMICAL SIGHTINGS

Meteors	92	79	88	179	163	100	187	119	94	57	11[illegible]
Stars & Planets	44	52	131	144	56	40	45	78	30	23	6[illegible]
Other	1	4	3	18	7	4	3	5	5	5	[illegible]
Total	137	135	222	341	231	144	235	203	135	85	18[illegible]

OTHER CASES

Hoaxes, Hallucinations, Unreliable Reports and Psychological Causes	6	17	17	57	23	13	18	17	11	15	17
Missiles and Rockets	1	1	3	2	6	14	12	12	9	13	7
Reflections	6	4	3	2	7	10	9	3	3	0	4
Flares & Fireworks	4	6	6	8	3	5	7	4	3	3	5
Mirages & Inversions	2	4	1	5	2	4	5	6	3	0	3
Search & Groundlights	6	14	9	12	8	5	6	1	3	2	6
Clouds & Contrails	3	2	1	9	5	2	4	5	4	5	4
Chaff	2	0	1	2	6	1	4	3	5	2	2
Birds	7	2	6	1	1	0	3	2	2	2	2
Radar Analysis	7	0	7	27	2	3	6	8	0	1	6
Photo Analysis	1	2	4	1	5	4	6	3	2	3	3
Physical Specimens	6	5	3	5	10	8	7	4	18	3	8
Satellite Decay	0	0	0	0	1	0	9	3	3	3	1
Other	7	4	0	9	5	3	3	3	1	4	3
Total	53	63	61	120	90	72	93	74	64	56	7[illegible]

STATISTICS FOR 1964

(Compiled 8 Jan 65)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
Astronomical	6	9	5	7	17	5	15	22	13	5	16	4	115
Aircraft	2	3	1	5	13	9	13	11	4	2	2	0	65
Balloon	0	0	0	2	3	0	8	2	1	0	2	0	18
Insufficient Data	4	4	5	7	15	8	12	13	9	5	6	0	88
Other	3	8	4	10	12	3	14	4	6	7	2	2	77
Satellite	2	4	3	9	20	4	42	30	4	4	17	3	142
Unidentified	0	0	1	2	2	1	4	5	1	0	0	0	12
Pending	0	0	0	0	1	0	1	0	1	0	5	3	11
Total	17	25	19	42	81	35	109	88	38	23	44	12	532

ASTRO CASES

Meteors	5	5	1	4	5	3	9	9	6	2	9	1	59
Stars & Planets	1	4	4	3	12	2	5	12	6	2	1	3	56
Other	0	0	0	0	0	0	1a	1b	1b	1c	0	0	[illegible]
Total	6	9	5	7	17	5	15	22	13	5	10	4	116

a) Moon b) Sun Dog c) Moon Dog

OTHER CASES

Hoaxes, Hallucinations, Unreliable Reports and Psychological Causes	1	2	2	4	5	2	4	2	3	3	1	1	30
Missiles & Rockets	1	1	1	1	0	0	1	0	1	1	0	0	7
Reflections	0	0	0	0	0	1	0	1	0	0	0	0	2
Flares & Fireworks	0	0	1	0	2	1	3	0	0	0	0	0	7
Mirages & Inversions	0	0	0	1	0	0	1	0	0	0	0	0	2
Search & Ground-light	0	0	0	2	1	0	1	0	1	1	0	0	5
Clouds & Contrails	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaff	0	0	0	0	0	0	0	0	0	0	0	0	0
Birds	0	0	0	1	1	0	2	0	0	0	0	0	4
Physical Specimens	0	0	0	0	1	3	2	0	0	1	1	0	8
Radar Analysis	0	0	0	0	0	0	0	0	0	0	0	1	1
Photo Analysis	0	0	0	0	0	0	0	1	0	1	0	0	2
Satellite Decay	1	1	0	0	0	0	0	0	0	0	0	0	3
Other	0	1	0	1	2	1	0	0	1	0	0	0	6
Total	3	5	4	10	13	8	15	4	6	7	2	2	77

[redacted]-72-65

TO : Ch... Contact Division
Attn: [redacted]

DATE: 25 January 1965

FROM : Chief, [redacted]

SUBJECT: National Investigation Committee on Aerial Phenomena (NICAP)
Case [redacted]

1. This confirms [redacted] conversation 19 January 1965, at which time various samples and reports on UFO sightings procured from NICAP were given to [redacted] for transmittal to OSI. The information was desired by OSI to assist them in the preparation of a paper for [redacted] on UFO's.

2. In accordance with [redacted] request, we met on 19 January 1965 with Mr. Richard Harris Hall, Acting Director of NICAP. Though Major William Kehoe, founder of NICAP, is still listed as Director of the organization, we gather that he is present on the premises at 1536 Connecticut Avenue, N. W., only infrequently.

3. The material which was given to us on loan by Mr. Hall is representative of the type of information available at NICAP. Their past and present correspondence from all over the US relative to UFO sightings is voluminous. They have slack periods, as was the case in December 1964, thus there were no "Investigators" reports immediately available for the month of December. NICAP has active Committees scattered throughout the US. Investigators active with these committees call upon the sources of reported UFO sightings to obtain first hand, eye witness accounts of the sightings. A printed form, prepared by the Air Force for NICAP's use, is utilized during the interview, and submitted to NICAP headquarters along with the source's eye witness account as told to the investigator. It was our understanding that copies of these reports go directly to various Air Force bases. There apparently is a strong feeling on the part of NICAP officials, i.e., Kehoe and Hall, that the Air Force tends to downgrade the importance of UFO sightings because they (the Air Force) does not care to have too much made of the sightings by the US press. We were told by Mr. Hall that there have been instances where the Air Force has attempted to intimidate witnesses and get them to sign false statements relative to UFO sightings.

APPROVED FOR RELEASE
DATE 16 Nov 78

[redacted] 11

D-#120

WAS-72-65
25 January 1965
Case [redacted]

4. The most recent UFO sighting of considerable interest to NICAP was the series of pick-ups of UFO's on the radar screen of the Patuxent Naval Air Station between 1500 and 1530 on 19 December 1964. This incident was reported in the press as a single sighting, a UFO approaching Patuxent at speeds up to 3300 miles per hour. The Air Force a day or so later stated in the press that the blip was caused by faulty radar equipment. Actually, according to Hall, who talked with an unidentified person close to the situation, there were three separate sightings:

(a) Two UFO's about 10 miles apart, southeast of Patuxent, approaching at a high rate of speed, disappeared from the screen;

(b) A single UFO picked up 39 miles southeast of Patuxent, altitude estimated somewhere between three thousand and 25 thousand feet, approaching base at estimated speed of six thousand miles per hour. UFO lost from screen about 10 miles out;

(c) A single UFO eight miles northeast of Patuxent, approaching at high rate of speed, made 160° turn, and dropped off the screen.

The Federal Aviation Agency (FAA) station at Salisbury, Maryland, was contacted to determine if any reported UFO's; a radio operator had received a message from a US Coast Guard ship reporting "visual objects sighted" in same locale at approximately the same time of day. Hall did give us the name of one of the radar operators at Patuxent--a Chief Pinkerton.

5. There was another UFO sighting reported in the area by the Washington Post within the last week or 10 days. Several men watching from the windows of the old Munitions Building on Constitution Avenue watched several UFO's on the horizon traveling at high rates of speed. They have promised to fill out NICAP's sighting questionnaire, which Hall says we are welcome to see when available.

6. [redacted] informed us that she is requesting a security clearance on Mr. Hall predicated upon biographic information provided by [redacted]

[redacted]

[redacted]

[redacted]

(179)

C

[redacted]

20 JUL 1966

MEMORANDUM FOR: Chief, Defensive Systems Division/OSI

SUBJECT: Air Force Request to Declassify an OSI Paper on UFO's

REFERENCE: CIA/OSI "Report of the Scientific Panel on Unidentified Flying Objects" dated February 1953

1. Mrs. Sara B. Hunt, of the Office of Information, Office of the Secretary of the Air Force, visited Mr. D. B. Stevenson on 19 July 1966 to discuss an Air Force request to declassify the referenced report. B3

2. Mrs. Hunt indicated that this request was triggered by the 12 May "CBS Reports" program. Dr. H. P. Robertson, Chairman of the panel, was on the show and reportedly made sufficient references to CIA involvement in UFO analysis to cause a press reaction.

3. A review of the documents supplied by Mrs. Hunt showed that Mr. Phil Strong had approved a similar Air Force request in December 1957. This resulted in a sanitized version of the original consultants' report. This report presented most of the conclusions but it did not refer to the original meeting minutes, case histories, or indicate CIA involvement. (Mrs. Baldwin has OSI copies of the reports and correspondence). B3 B3

4. Although the Air Force request now in OSI does not request additional declassification, Mrs. Hunt expressed the view that this was intended. Mrs. Hunt said that the Air Force is now trying to declassify all U.S. Government work on UFO's.

5. Inasmuch as my review of the original material showed that significant deletions would be required for further declassification, I suggested that Mrs. Hunt ask the Air Force originator to submit a second request, if they wanted declassification of additional material from

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[redacted]

179

[redacted]

SUBJECT: Air Force Request to Declassify an OSI Paper on UFO's

6. Mrs. Hunt said that a more specific request would be sent to us in the near future.

7. Mr. Loomis is holding the recent Air Force request until Mrs. Hunt contacts us.

DAVID B. STEVENSON

Distribution:
Orig & 1 -- Addressee
2 -- DD/OSI
2 -- ACMB/DSD/OSI

OSI/DSD/ACMB DBStevenson:sjm/7621 (20 July 66)

[redacted]

(180)

[redacted]

12 AUG 1966

MEMORANDUM FOR RECORD:

SUBJECT: Air Force Request to Declassify CIA UFO Report

REFERENCE: Memo for Chief, DSD/OSI, dated 20 July 66

1. Miss Sara Hunt of Air Force Office of Information phoned on 10 August to determine the status of our response to their request.

2. Upon instructions from Dr. Walter Mackey, I told her that the declassified report was being retyped and would be forwarded soon. Miss Hunt's restraint was admirable. She pressed gently for a more specific response, which was not forthcoming. B3

3. Miss Hunt concluded by saying that Mr. John Leard, a newsman, had an article on UFO's in last week's Saturday Review. She stated that they wanted to show the new version to him as soon as it was declassified.

D. B. STEVENSON B3

Distribution:
Orig & 1 - ACMB/DSD/OSI
2 - DSD/OSI

OSI/DSD/ACMB DBStevenson:sjm/7621 (11 Aug 66) B3

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D. B. STEVENSON B3

Distribution:
Orig & 1 - ACMB/DSD/OSI
2 - DSD/OSI

OSI/DSD/ACMB/DBStevenson:sjm/7621 (11 Aug 66) B3

[redacted]

180

23 AUG 1966

MEMORANDUM FOR RECORD:

SUBJECT: Air Force Request to Declassify CIA UFO Report

REFERENCE: 1. Memo to Ch/DSD dated 20 July 1966
2. Memo for Record dated 12 August 1966

1. Mrs. Sara Hunt of the Air Force Office of Information called the undersigned twice on 16 August and once on 18 August.

2. The first time she asked if our response had gotten out and I told her it had. She requested the phone number of the office responsible for issuing the reply and I gave her [redacted] number.

3. The second time Mrs. Hunt called she wanted to know the extent of the deletions, if any. I told her that, at least, reference to CIA and names of CIA employees were removed, and that I had heard that some additional sanitizing probably was done in the processing of the reply.

4. The ~~fourth~~ third call was to state that Air Force had received our response, and to ask for the return of their copy of the CIA report which had been forwarded to us with the request for declassification.

DAVID B. STEVENSON

Distribution:
Orig & 1 - ACMB/DSD/OSI
1 - DSD/OSI
1 - EO/OSI

OSI/DSD/ACMB:DBStevenson:sjm/7621 (23 Aug 66)

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DAVID B. STEVENSON

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1 - DSD/OSI
1 - EO/OSI

OSI/DSD/ACHB/DBStevenson:sjm/7621 (23 Aug 66)

[redacted]

214

19 Jan 69

Case [redacted]

Chief Petty Officer, Patuxent Naval Air Station, picked up on radar 3 consecutive trackings: December 19th 1967 between 3:15 and 3:30 P.M.

Initial sighting 2 objects 10 miles apart
2nd sighting picked up on screen 39 miles S.E. of Patuxent Naval Air Station travelin towards base at estimated speed of 6 thousand miles per hour. Lost it off screen abo 10 miles out of Patuxent.

3rd sighting on screen one UFO 8 miles N.E. of Patuxent which made 160° turn and dropped off screen. On same date about same time checked with an FAA station at Ex Salisbury, Maryland which had picked up messages from U.S. Coast Guard reporting sightings of UFOs.

Based on radar beam data, altitude of UFOs estimated in range between ~~[illegible]~~ 3000 to 25000 feet

[redacted]

APPROVED FOR RELEASE
DATE 16 Nov 78

#119

(171)

[illegible] SECRET

CENTRAL INTELLIGENCE AGENCY

OFFICIAL ROUTING SLIP

NO.	NAME AND ADDRESS	INITIALS	DATE
1	Legis. Counsel		
2			
3			
4			
5			
6			

[illegible]		[illegible] REPLY	✓	[illegible] REPLY	
[illegible]		[illegible]		[illegible]	
[illegible]		[illegible]		[illegible]	
[illegible]		[illegible]		[illegible]	

Remarks:

No previous record of Davidson in Exec Registry.

FOLD HERE TO RETURN TO SENDER

FROM: NAME, ADDRESS AND PHONE NO.	DATE
IG	5 July 61
CONFIDENTIAL	SECRET

[illegible]

SECRET

CENTRAL INTELLIGENCE AGENCY

OFFICIAL ROUTING SLIP

	NAME AND ADDRESS	INITIALS	DATE
1	Legal Counsel		
2			
3			
4			
5			
6			

[illegible]	[illegible] ONLY	✓	[illegible] ONLY
[illegible]	[illegible]		[illegible]
[illegible]	[illegible]		[illegible]
[illegible]	[illegible]		[illegible]

Remarks:

No previous record of Davidson in Executive Registry.

FOLD HERE TO RETURN TO SENDER

FROM: NAME, ADDRESS AND PHONE NO.	DATE
IG	5 July 61

UNCLASSIFIED | CONFIDENTIAL | SECRET

171

(172)

UNCLASSIFIED ☐ INTERNAL USE ☐ CONFIDENTIAL ☐ SECRET

RETURN AND RECORD SHEET

SUBJECT: (Optional)

CONGRESSIONAL CORRESPONDENCE

FROM: Legislative Counsel

NO.

DATE

TO: (Officer designation, room number, and building)	DATE RECEIVED	DATE FORWARDED	OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
1. [illegible]		[illegible]	JRR	The attached congressional correspondence is forwarded to you for the preparation of an appropriate reply. This correspondence, together with your proposed reply for the signature of _____ should be returned to the Legislative Counsel by _____ If for any reason, a complete response cannot be in the hands of the Legislative Counsel by this date, please contact this office by telephone immediately.
2. [illegible]				
3.				
4.				
5.				
6.				I think I remember previous correspondence from Dawson on the [illegible] support, they have been so much [illegible] Mail can't be [illegible]
7.				
8.				
9.				
10.				
11.				
12.				
13.				

CONGRESSIONAL CORRESPONDENCE

FROM: Legislative Counsel

NO.

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7.				
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12.				
13.				
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15.				

FORM 610 [illegible] ☐ SECRET ☐ CONFIDENTIAL ☐ INTERNAL USE ONLY ☐ UNCLASSIFIED

172

[redacted]

~~Patuxent~~ Patuxent

Chief Pet. Officer Putuxe. Naval Air Sta
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~~relative to~~ reporting sightings
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~~relative to~~ reporting sightings
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Based on Radar beam data, altitude of
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APPROVED FOR RELEASE
DATE 16 Nov 78

[redacted] [redacted]

#118

Phone request from [redacted] 19 Jan 65

New Case [redacted]

[redacted] asked OSI to evaluate info on what has happened in last 10 weeks on unidentified flying objects by 21 Jan 65.

3 yrs ago Major Kehoe, Retired, organized the National Investigations Committee on Aerial Phenomena (NICAP) 1536 Conn. Ave. N.W. Washington, D.C. (It is believed that Kehoe is no longer with organization)

Current Issue of True magazine has article by Kehoe describing phenomena & stating that AF is trying to downgrade it because AF doesn't want ~~it~~ the info ~~too~~ known to public

several articles in newspaper recently on flying saucers

[redacted]

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several articles in newspaper recently on flying saucers

Above info given to [redacted] by phone 19 Jan 65

Deadline for info - Thurs. 21 Jan 65

Unidentified Flying Objects

Group Major Kehoe ~~to~~ organized Retired
org. at about 3 yrs ago.
Organ

Natl Investigations Committee on Aerial Phenomena (NICAP)
1536 Connecticut N.W.

what has happened in last 10 weeks on flying objects.

by Thurs
unclassified

[redacted] asked OSI to evaluate —

3 or 4 weeks ago several —

Current Issue True Magazine article by Kehoe

describing phenomena & trying

Group Major Keyhoe ~~to~~ organized
org. about 3 yrs
ago.
Loyer

Natl Investigations Committee
on aerial Fenomena (NICAP)
1536 Connecticut
N.W.

what has happened in
last 10 weeks on flying objects.

by Hurs
unclassified

[redacted] asked OSI to evaluate -

3 or 4 weeks ago several -

Current Issue True Magazine article by Keyhoe
describing phenomena & trying
to downgrade it because AF
doesn't want it to get out.

[redacted]

Since June 58 with Org

Acting Director - Hall, Richard Norris

National Investigations Com. D.O.B. [redacted]

on A.P. (NICAP)

address - case

Residence [redacted]

[redacted]

(182)

Memorandum for the D/CI

Subject: Air Force Request to Declassify CIA Material on Unidentified Flying Objects (UFO)

1. The following is a brief review of events pertinent to the subject matter.

2. In 1953 OSI convened a panel of scientists to consider reports on unidentified flying objects and to advise us on the potential threat to national security. This resulted in a report classified "secret."

3. In 1957 following some publicity on CIA involvement in the UFO problem, the USAF requested and obtained an unclassified version of the conclusions of the 1953 report. That version avoided mentioning CIA involvement. (See attachment A)

4. Dr. H. P. Robertson, the Chairman of the 1953 panel, was reported to have appeared on the "CBS Reports" TV program on 12 May 1966 and to have referred to the CIA sponsored panel on UFO's.

possible already aired

5. On 12 July 1966 USAF again requested declassification of the 1953 report. (See attachment B) Prior publicity was given as justification for downgrading.

6. In as much as a sanitized version of the 1953 report had been released to the Air Force in 1957, we requested clarification in a meeting with an Air Force representative on 19 July. (See attachment C) During this meeting the Air Force representative showed us a USAF copy of the 1953 CIA report. It was stamped unclassified, indicating that the classification had been changed sometime prior to 19 July.

7. A new request dated 27 July was prepared by USAF. (See

Memorandum for the D/CI

Subject: Air Force Request to Declassify CIA Material on Unidentified Flying Objects (UFO)

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garble already aired

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7. A new request dated 27 July was prepared by USAF. (See attachment D)

182

8. On 10 August the Air Force representative called to ask about the status of our reply. She stated that Mr. John Lear, a newsman, had published an article on UFO's in the Saturday Review. (See attachment E, paragraph 3) This was the first indication during the recent interchanges that the USAF wanted to release the complete CIA report to the public.

9. On 15 August a declassified version of the complete 1953 report was forwarded to the Air Force. (See attachment F)

10. Prior to USAF receipt of the OSI reply, the Air Force called twice on 16 August to determine the status of our response and to ask about the extent of the sanitizing.

11. They called again on 18 August to request return of the USAF copy of the CIA report which had been sent to us for sanitizing. (See attachment G)

WALTER L. MACKEY
Executive Officer

B3

OSI/DSD/ACME/DBStevenson:ch/7621 (1 September 66)

B3

[redacted]

[redacted] 102325Z CITE CONTACTS/NEW YORK 7866

CONTACTS/WASHINGTON

[redacted]

RE CASE [redacted] AND CONTACTS/WASHINGTON 76335, BELIEVE ESTABLISHED AGENC CHANNELS [redacted] IN NEW YORK WILL HANDLE ORD REQUEST FOR "UFO-FACT OR FANCY" MOST EXPEDITIOUSLY. IF WE GET INTO THESE ROUTINE FILM ACTIONS IT GENERALLY TENDS TO CONFUSE THE HARMONIOUS [redacted] RELATIONSHIP ON FILM PROCUREMENT.

[redacted]

BT

[redacted]

APPROVED FOR RELEASE
DATE 17 Nov 78

[redacted]

D-(#122)

Possible other foreign [redacted] obtaining [redacted]

~~C O N F I D E N T I A L~~ 141445Z APR 76 STAFF

CITE DCD/[redacted]

TO: PRIORITY DCD/HEADQUARTERS,

ATTN: [redacted]

FROM: DCD/[redacted]

SUBJECT: CASE [redacted] -- UFO RESEARCH

REF (A): DCD/HEADQUARTERS 14596

(?): FORM-S10 DATED 9 APRIL 1976, UFO STUDY.

1. SOURCE'S FULL NAME IS [redacted] HE IS EMPLOYED AS [redacted]

2. REFERENT B MATERIAL CLASSIFIED CONFIDENTIAL AT HIS REQUEST. SOURCE SEEKS GUIDANCE FROM CIA UFO EXPERTS AS TO MATERIAL IN HIS REPORT THAT SHOULD REMAIN CLASSIFIED. [redacted]

[redacted]

APPROVED FOR RELEASE

~~C O N F I D E N T I A L~~ 141445Z APR 76 STAFF

CITE DCD/[redacted]

TO: PRIORITY DCD/HEADQUARTERS.

ATTN: [redacted]

FROM: DCD/[redacted]

SUBJECT: CASE [redacted] - UFO RESEARCH

REF (A): DCD/HEADQUARTERS 14596

(?): FORM 510 DATED 9 APRIL 1976, UFO STUDY.

1. SOURCE'S FULL NAME IS [redacted] HE IS EMPLOYED AS [redacted]

2. REFERENT B MATERIAL CLASSIFIED CONFIDENTIAL AT HIS REQUEST. SOURCE SEEKS GUIDANCE FROM CIA UFO EXPERTS AS TO MATERIAL IN HIS REPORT THAT SHOULD REMAIN CLASSIFIED. [redacted]

[redacted]

APPROVED FOR RELEASE
DATE 17 Nov 78

D- #125

[redacted]

Executive Registry
67-5709/A

7 December 1967

Mr. Gary R. Lesley
Director, U.A.P.R.O.
717 "A" Street, Northeast
Auburn, Washington 98002

Dear Mr. Lesley:

This will acknowledge your recent letter concerning unidentified flying objects.

Since the matters of concern to you are the responsibilities of the United States Air Force, I suggest that you contact them.

Sincerely,

SIGNED

[redacted]
Executive Assistant

PERSONAL

Distribution:
0 - Addressee
1 - Director of Security w/basic
1 - ER
1 - EA/DCI
O/DCI/[redacted] (7 December 1967)

S-1

DEC 8 3 00 PM '67

190

DRAFT
5 November 1974

Mr. Brad C. Sparks
2650 Haste Street, 806G
Berkeley, California
94720

Dear Mr. Sparks:

In response to your letter of 21 October 1974, a copy of the minutes of the 4 December 1952 meeting of the Intelligence Advisory Committee relating to the discussion of "Unidentified Flying Objects" is enclosed. Following this meeting selected scientists reviewed and appraised the available evidence on the subject. A copy of the report of this review, titled "Report on Unidentified Flying Objects", dated 17 January 1953 is enclosed. In view of the conclusion of the Panel that the evidence presented on unidentified flying objects showed no indication that these phenomena constitute a direct physical threat to national security, no National Security Council Intelligence Directive (NSCID) was drafted.

I trust this material satisfies your request.

Sincerely,

Bruce A. Lowe
Executive Secretary

Enclosures

A1

7 February 1967

MEMORANDUM FOR: Deputy Director for Intelligence

SUBJECT: U. S. Air Force Contract with the University of Colorado to Report on the UFO Situation

1. As verbally reported to you during our morning staff meetings, the U. S. Air Force contract with the University of Colorado to investigate the UFO situation is now underway. This contract is set at $325,000 and is scheduled for completion in 18 months. Dr. E. U. Condon, formerly Director of U. S. Bureau of Standards and now a Professor, leads the project at the University of Colorado.

2. Early in the proceedings Brig. General Ed Giller, USAF, emerged in the U. S. Air Force Deputy Chief of Staff, Research & Development Office (AFRST) along with Dr. Thomas Ratchford as the Washington leaders monitoring the project. Giller contacted Director DIA about the project and a line of informal liaison was set up with Ratchford by which the USAF might get certain technical advices and services such as measurements and enlargements of alleged UFO photos. These photos are rare so very little work and no commitment of NPIC are yet involved. These informal arrangements were made known to USAF representatives and Director offered to keep them posted of any Air Force photos which might be of interest.

3. It is now requested by Ratchford that certain scientists be permitted to come to NPIC on 20 February to discuss technical aspects of photogrammetry and to see some of our special optical gear which is used to measure, enlarge, or trace isodensitometry of photos. These scientists include:

Dr. E. U. Condon	University Colorado
Dr. Robert Low	" "
Dr. Davis Saunders	" "
Dr. William Price	Ex Director of AFRST
Dr. John Coleman	Ex Director of the National Academy of Sciences

These personnel are all cleared for at least USAF Secret.

T-11

SUBJECT: U. S. Air Force Contract with the University of Colorado to Report on the UFO Situation

4. I can accommodate this USAF request but before doing so I would like your approval. I have told USAF representatives that I can have no part in writing whatever they might conclude on this UFO phenomena but that I might be able to help them technically and thereby add to the government's cost effectiveness program. At the same time I might be able to preserve a CIA window on this program for whatever use DCGT might want to make of it.

5. I think that we should keep some views on this effort. Should you decide that I must refuse the visitors a technical briefing at NPIC, I would still recommend that two of our technical people be permitted to conduct a photogrammetric round-table discussion for the scientists elsewhere.

ARTHUR C. LUSNIA
Director
National Photographic Interpretation Center

Distribution:
Orig & 1 - Addressee
2 - NPIC/ODir

A2

17 February 1967

MEMORANDUM FOR: Director, National Photographic Interpretation Center

SUBJECT: Photo Analysis of UFO Photography

1. This memorandum is in response to Project Number 66120-7, submitted by requesting that perform a photo analysis of photographs imaging an alleged UFO (i.e. unidentified flying object).

2. The photography for this project was supplied by the Aerial Phenomena Office of FTD (TDET/UFO), located at Wright-Patterson AFB, Dayton, Ohio. The photographic package included three photo enlargements of the UFO (attachments 1, 2 and 3) and one photo enlargement of a helicopter (attachment 4). The latter was supposedly taken at approximately the same time and from approximately the same camera station as were the UFO photographs. The image quality of these four prints were less than optimum and were considered poor for mensural and photo analysis. These four enlarged photographs were copies reproduced from a second generation negative and attachments 1 and 2 were supposedly printed full format with an approximate 4"x6" image format. Attachments 3 and 4 are assumed not to be full format and were not used in this photo analysis because of this factor. The original photography was taken with a Polaroid Swinger having an approximate 2"x3" image format. These original prints were not available for the photo analysis. This latter single factor greatly hampered the analysis and prevented any hopes of establishing meaningful answers.

3. Also included in the photographic package were five photographs of the alleged exposure station and surrounding vicinity. These photographs (attachment 5) were taken with a Polaroid Swinger by Major R.W. Nyls of the USAF. He personally investigated the UFO exposure station on the shore of Lake St. Clair, Michigan, and tried to duplicate as closely as possible the exact position of the original camera exposure stations. Major Nyls also provided exact measurements of the area and objects imaged in the original UFO

T-12

photographs (attachments 6, 7 and 8). These photographs along with the measurement sketches and investigation report provided a means of obtaining an approximate photographic scale. This scale value was then used to obtain approximate dimensions of the UFO. However, to do this the photo analyst had to first make major assumptions. These assumptions were necessary in a photo analysis of this type where insufficient data is available or in doubt. If any of these assumptions are in error the obtained dimensions are likewise in error.

4. The assumptions used in this photo analysis are as follows:

a. UFO was at a distance of 0.25 miles from camera station when photographed (this information supplied by Major Nyls in his investigation report).

b. The measurements supplied by Major Nyls are correct as stated.

c. Photographs shown in attachment 1 and 2 are full format.

d. UFO photographed was circular with plane of tail section perpendicular to camera axis.

e. The distance between the camera station and the object was large enough so that adjustments to the camera focal length need not be considered.

5. Attachment 9 represents an artists rough conception of the UFO along with the averaged dimension obtained from the mensural analysis of the photograph shown in attachments 1 and 2. Again, the user of this information must be cautioned that the dimensions shown here are only approximations based on assumptions. The quality of the photography, the crude estimation of the distance from the camera station to the object, the lack of original prints and precise camera data all tend to invalidate the answers. A good example of how the dimensions could change is illustrated by any change in the distance of the object from the camera station. The dimensions will change in direct proportion as the ratio of any new distance divided by the 0.25 mile distance that was used, i.e. 0.20 mile ÷ 0.25 mile = 0.80; therefore, causing the new values to be 80% of the original values.

SUBJECT: Photo Analysis of UFO Photography

6. In conclusion, it should be noted that all of the information contained in this memorandum deals with quantitative or dimensional information obtained from calculations based upon a large number of assumptions. The qualitative or subjective analysis of the imagery is not treated because of a lack of background knowledge on UFO imagery. This office cannot shed any light on the authenticity of this alleged UFO from this photo analysis. There is no definite evidence that this photography is a hoax. On the other hand, for one to assume that this object is a UFO is equally as dangerous. There are too many unanswered questions to label the probable cause of this sighting as anything but undeterminable. For example the degraded image quality of the helicopter when compared with the UFO is suspect when considered that the helicopter was closer to camera station when photographed. Likewise, the crispness of the edge gradient of the black band on the UFO is good considering the distance at which the object was photographed. Also, the fact that the tail section of the UFO was photographed in each case with the same cross section exposed casts some suspicion on the authenticity of the UFO. However, each of the above facts can be explained by various reasons and because of these reasons the photo analysis of this UFO photograph has resulted in inconclusive answers.

Photo 2 of Attachment 5 to A2

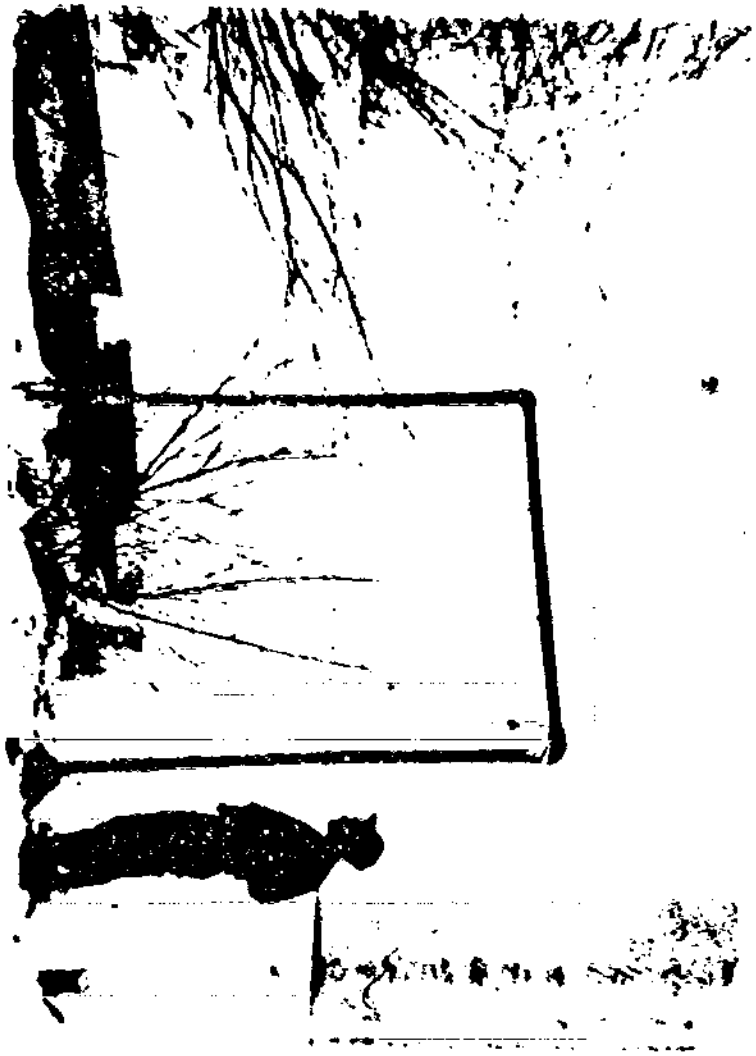
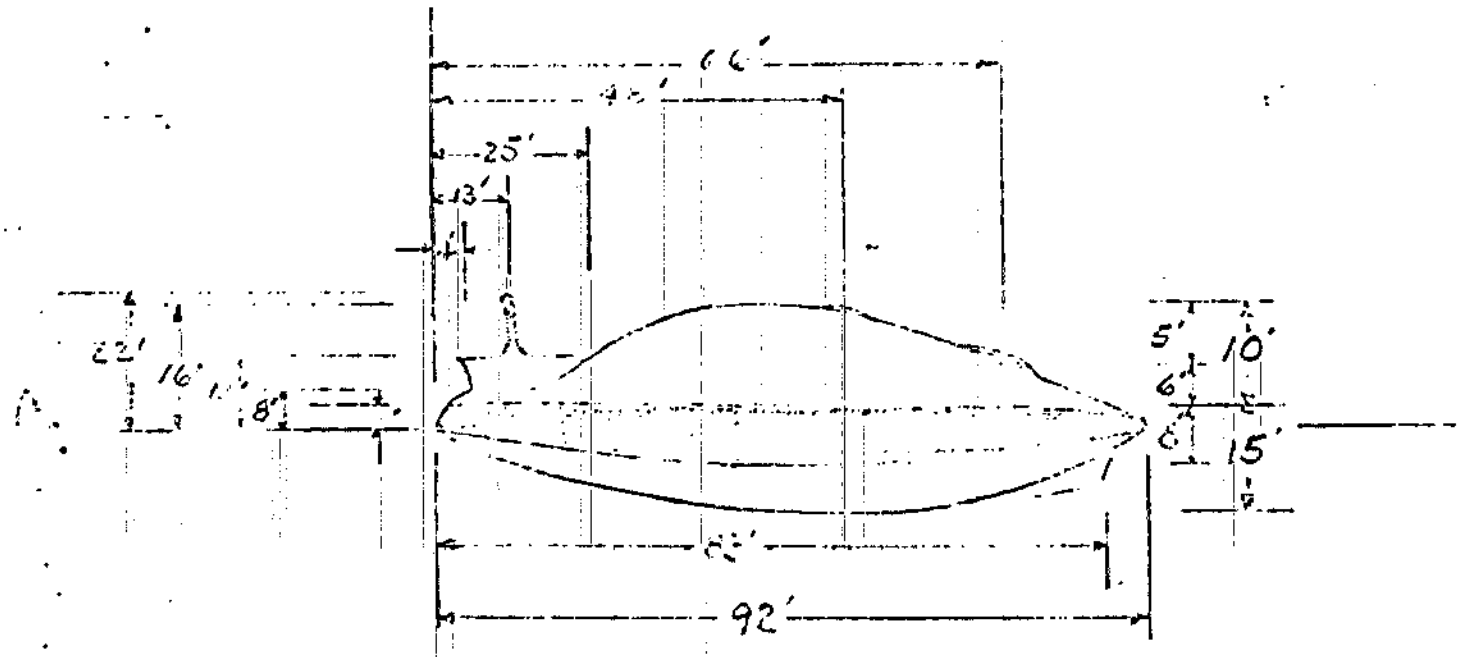


Photo 1 of Attachment 5 to A2



Attachment 9 to A2

Intelligence Information Report

[redacted]

DIRECTORATE OF INTELLIGENCE

[redacted]

COUNTRY USSR

REPORT NO. 00-8-321/07709-72

SUBJECT [redacted]

DATE DISTR. 10 Apr 72

NO. PAGES 2

REFERENCES [redacted]

DATE OF INFO. [redacted]

PLACE & DATE ACQ. BY SOURCE [redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE

1.

2.

3.

5
4
3
2
1

5
4
3
2
1

[redacted]

NO. PAGES 2

REFERENCES [redacted]

DATE OF INFO. [redacted]

PLACE & DATE ACQ. BY SOURCE [redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE

1.

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APPROVED FOR RELEASE

DATE 6 Dec 78

D- #70

[redacted]

4. [redacted]

5. [redacted]

Another Soviet, who was a member of a committee the USSR has established to investigate unusual phenomena, in other words, flying saucers, gave a serious talk which was actually very humorous. His approach was, "Well, of course, we know there isn't anything to this alleged phenomenon (flying saucers), but on the other hand---." During this talk [redacted] and other Soviets joked and laughed and obviously did not take the speaker's remarks seriously. [redacted] remarked later to [redacted] that the "flying saucer committee" consists of many politicians, theorists, historians and similar type people. It has little if any scientific talent.

6. [redacted]

-end-

[redacted]

5. [redacted]

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6. [redacted]

- end -

[redacted]

[redacted]

[redacted]

A3

21 February 1967

MEMORANDUM FOR:

ATTENTION:

THROUGH:

SUBJECT: Answer to Request of Speed Letter dated 30 January 1967

1. Analysis of the UFO image on the provided photography was performed to the limited extent permitted by the copy prints. It must be remembered that the conclusions presented are based on the evaluation of copies rather than the originals. The copying process veils not only the grain and focus characteristics of the original image, but also may distort the accuracy of measuration even when the exact enlargement parameters are known. In this case, these parameters are unknown.

2. The following was assumed for the basis of this analysis. The accuracy of these assumptions, however, is questioned.

a. The total enlargement factor of prints one and three is the same.

b. The total enlargement factor of prints two and five is the same.

c. The total enlargement factor of prints one and three is approximately two times that of prints two and five.

3. Findings:

a. The pattern of apparent grain clumping is similar on prints one and three and on prints two and five.

b. The edges of the UFO image appear more sharply defined in print one than do those of the helicopter image in print three.

T-13

SUBJECT: Answer to Request of Speed Letter dated 30 January 1967

c. Contrast and density analysis of the images was not considered valid due to the inherent distortions caused by the copying process.

d. The edge sharpness of the UFO image in print two appears quite similar to the edge sharpness of the pipe in the same print.

e. It is assumed that the difference in image size between prints two and five was caused by a change in camera to UFO distance. This distance was less in print five than in print two. The following two conditions are offered:

(1) Considering a large UFO at a distance of approximately a quarter mile (1,000 feet) and a stationary camera location, the UFO would have had to travel a considerable distance (800 feet) in a flight line almost directly toward the camera position to produce such a change in image size.

(2) Considering a small, stationary UFO at a distance of approximately six feet and a slightly variable (½ one foot) in camera location, a change in image size of this magnitude would have resulted from a change in camera location of less than the above variable.

f. has reviewed the quantitative results obtained by and has found no discrepancies in what has been done. Unfortunately, with the material available very little objective information can be obtained except building some tables of object size versus distance from the camera station. feels that the original prints would enable further that geometric study by providing the total geometric frame work and imagery of the exposures. It is anticipated that this study would concentrate on three areas:

(1) Man scale measurement including sizes, distances, and angles.

SUBJECT: Answer to Request of Second Letter
dated 30 January 1967

(2) Stereoscopic analysis of the UFO and its relationship with the surrounding branches, pole, and camera station.

(3) Dynamic analysis of the relative movement of the system including camera station and UFO.

4. Conclusion:

None definite. To decide the authenticity of the image as being a UFO is not possible from the furnished prints. It is possible that an analysis of the original photograph would provide added information which would enable a definite conclusion. Associated facts such as the familiar reluctance to discuss or show the original photographs, the convenient location of the wire frame through which the photographs were taken and the difference in scale of the UFO image between prints two and five which is most easily explained with a model tends to substantiate the model theory. However, no conclusion as to whether the object is either a model or a genuine UFO can be offered at this time.

A4

23 February 1967

MEMORANDUM FOR THE RECORD

SUBJECT: Visit of Dr. Condon to NPIC, 20 February 1967

1. The U.S. Air Force has let a $300,000 contract to the University of Colorado to study reported UFO sightings. Brig. Gen. Edward B. Gillers, USAF, is senior Air Force contact and Dr. Thomas Rachford is senior Air Force Scientist on the project. The senior scientist from the University of Colorado is Dr. E.U. Condon.

2. On 20 February 1967 at 0915 Dr. Condon and four members of his investigative team visited NPIC. With Dr. Condon were Dr. Richard Lowe, University of Colorado, Dr. David Saunders, University of Colorado, Dr. William Price, Executive Director of AFRST, and Dr. Rachford, USAF. The purpose of this visit was to familiarize Dr. Condon and members of his team with selected photogrammetric and photographic analysis capabilities of NPIC.

3. The clearance level for the meeting was SECRET.

4. Upon arrival at NPIC, 0915, escorted the group to Mr. Lundahl's office. In the ensuing 10-15 minute discussion between Mr. Lundahl and Dr. Condon the following points were clearly established:

a. Any work performed by NPIC to assist Dr. Condon in his investigation will not be identified as work accomplished by CIA. Dr. Condon was advised by Mr. Lundahl to make no reference to CIA in regard to this work effort. Dr. Condon stated that if he felt it necessary to obtain an official CIA comment he would make a separate distinct entry into CIA not related to contacts he has with NPIC.

b. NPIC will not prepare any written comments, will not analyze information with the intent of drawing a conclusion, nor prepare written reports. NPIC personnel

T-14

will be available to assist Dr. Condon by performing work of a photogrammetric nature, such as attemptong to measure objects imaged on photographs that may be part of Dr. Condon's analysis. Work performed by NPIC will be strictly of a technical nature using services and equipment generally not available elsewhere.

5. Following this brief discussion in Mr. Lundahl's office the group adjourned to the conference room where a series of briefings was presented to Dr. Condon and his group. Following a short introduction by the following briefings were presented:

a. General discussion of photogrammetry, including definition, terminology and, in general, what photogrammetry is and what it can do. presented this discussion.

b. followed with a presentation of the analysis he had been conducting on UFO photography furnished NPIC by Dr. Rachford. discussion was of a general nature and outlined the problems he had encountered because of lack of basic information, such as camera focal length, make of camera, unspecified enlargements, etc.

c. then gave a general discussion on the microdensitometer and its application to image analysis.

d. followed this with a presentation on isodensitometer experiments he has been conducting.

e. then escorted the group into the new clean area where they viewed and discussed the isodensitometer and the new Mann Microdensitometer.

f. Returning to the conference room, briefed the group on measuring instruments used in and followed by a general presentation on the success and failure had experienced in trying to measure objects imaged on the second UFO project assigned Following this discussion then conducted the group into the instrument area where the Point Transfer Device, Mann 880 Comparator, the Benson-Lehner Plotter and the NRI were viewed by the group.

SUBJECT: Visit of Dr. Condon to NPIC, 20 February 1967

6. At about 1215 escorted the group back to Mr. Lundahl's office where a general discussion on UFOs ensued. At about 1235 the group adjourned to lunch and following lunch they left NPIC for a meeting with Brig.Gen.Gillers at the pentagon.

7. Most all the discussion during the morning was of an unclassified nature dealing with primary basic fundamentals of photogrammetry, photographic analysis and problems related to the acquiring of enough information to conduct meaningful analyses.

A-1

13 March 1967

Monthly Report for February 1967

3. Dr. Condon and his associates of the UFO consultant group spent the morning of 20 February with The group was briefed on the subjects of photogrammetry and mensuration techniques, then conducted on a tour to observe various mensuration instruments in operation.

T-15

SUBJECT: Monthly Report for February 1967

6. The UFO Mensuration Support project was closed with as thorough an evaluation as the photographic prints permitted. No definite conclusion as to the authenticity of the image could be issued.

[redacted]

[redacted]

ROUTINE

14755

26 APRIL 1976 1000 1 APR 26 1 31 PM '76

: DCD/[redacted]

ATTN : [redacted]

FROM : DCD/[redacted]

SUBJECT : DCD CASE [redacted] - UFO RESEARCH/[redacted]

[redacted]

REFERENCES: A) [redacted] TELECON, 22 APRIL 1976

B) [redacted]

1. PER THE REQUEST IN REFERENCE (B), WE ATTEMPTED TO OBTAIN ANALYTICAL GUIDANCE ON THE UFO [redacted] SUBJECT.

2. WE CONTACTED THE A/DDS&T (DR [redacted] TO SEE IF HE KNEW OF ANY OFFICIAL UFO PROGRAM AND ALSO TO ATTEMPT TO ANSWER SOME OF THE QUESTIONS POSED BY [redacted] DR [redacted] EXHIBITED INTEREST IN [redacted] WHICH WAS HANDCARRIED TO HIS OFFICE. AFTER A SHORT EXAMINATION OF ITS CONTENTS DR [redacted] ADVISED US THAT HE WOULD PERSONALLY LOOK INTO THE MATTER AND GET BACK TO US. AS WE DISCUSSED IN REFERENCE (A) DR [redacted] HAS SINCE CONTACTED US AND RELAYED THE FOLLOWING INFORMATION.

3. IT WOULD APPEAR TO BE BEST IF YOU ADVISED [redacted] THAT HE SHOULD [redacted]

[redacted] [redacted] [redacted]

FROM : DCD/[redacted]

SUBJECT : DCD CASE [redacted] - UFO RESEARCH/[redacted]

REFERENCES: A) [redacted] TELECON, 22 APRIL 1976

B) [redacted]

1. PER THE REQUEST IN REFERENCE (B), WE ATTEMPTED TO OBTAIN ANALYTICAL GUIDANCE ON THE UFO [redacted] SUBJECT.

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3. IT WOULD APPEAR TO BE BEST IF YOU ADVISED [redacted] THAT HE SHOULD [redacted]

APPROVED FOR RELEASE
DATE 17 Nov 78

D - #127

[redacted]

[redacted]

14755

Apr 76 | 31 Mar '76

IT DOES NOT ~~APPEAR~~ SEEM THAT THE GOVERNMENT HAS ANY ~~APPARENT~~ CURRENT PROGRAM IN PROGRESS FOR THE IDENTIFICATION/SOLUTION OF THE UFO PHENOMENA. DR [redacted] FEELS THAT THE EFFORTS OF INDEPENDENT RESEARCHERS, [redacted], ARE VITAL FOR FURTHER PROGRESS IN THIS AREA. AT THE PRESENT TIME, THERE ARE OFFICES AND PERSONNEL WITHIN THE AGENCY WHO ARE MONITORING THE UFO PHENOMENA, BUT AGAIN, THIS IS NOT CURRENTLY ON AN OFFICIAL BASIS. DR [redacted] FEELS THAT THE BEST APPROACH WOULD BE TO KEEP IN TOUCH WITH AND IN FACT DEVELOP REPORTING CHANNELS IN THIS AREA TO KEEP THE AGENCY/COMMUNITY INFORMED OF ANY NEW DEVELOPMENTS. IN PARTICULAR, ANY INFORMATION WHICH MIGHT INDICATE A THREAT POTENTIAL WOULD BE OF INTEREST, AS WOULD SPECIFIC INDICATIONS OF FOREIGN DEVELOPMENTS OR APPLICATIONS OF UFO RELATED RESEARCH.

4. DR [redacted] HAS ADVISED US THAT HE WOULD EVALUATE ANY ADDITIONAL INFORMATION WE MIGHT RECEIVE AS WELL AS DISSEMINATE SIGNIFICANT DEVELOPMENTS THROUGH APPROPRIATE CHANNELS SHOULD IT BE WARRANTED.

5. WE WISH TO STRESS AGAIN, THAT THERE DOES NOT NOW APPEAR TO BE ANY SPECIAL PROGRAM ON UFOS WITHIN THE INTELLIGENCE COMMUNITY AND THIS SHOULD BE RELAYED TO [redacted]

[redacted]

[redacted]

14755

6. IN VIEW OF DR [redacted] WILLINGNESS TO REVIEW ADDITIONAL INFORMATION RECEIVED ON THE UFO PHENOMENA WE WILL KEEP SUBJECT CASE OPEN TO YOUR OFFICE FOR THE PRESENT.

7. PLEASE KEEP US ADVISED OF ANY NEW DEVELOPMENTS.

[redacted] [redacted] [redacted]

Data from CRS and from FBIS on Zigel, F. Yu., Dr. of Technical Sciences, writes under auspices of Moscow Aviation Institute, Associate Professor there as of 1969.

"Nuclear Explosion over the Taiga (Study of the Tunguska Meteorite), Znaniye-Sila, No 12, 1961, pp 24--27
JPRS: 13480

"On the Agenda -- Space!" Nedel'ya, 17-23 Apr 1960, p 14
IGC
OTS PB 131632-121 -- NTIS/Dept of Commerce

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T-7

INFORMATION REPORT INFORMATION REPORT

31 AUG 1967 CENTRAL INTELLIGENCE AGENCY

[redacted]

COUNTRY	USSR	REPORT NO.	OO-2-321/23490-67
SUBJECT	Report on Conversations With Soviet Scientists on Subject of Unidentified Flying Objects in the USSR	DATE DISTR.	18 AUG 67
		NO. PAGES	2
		REFERENCES	16-522-64
			(351)
DATE OF INFO.	[redacted]		
PLACE & DATE ACQ.	[redacted]		

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

1. [redacted]

2. He visited [redacted] who was noncommittal on the subject of UFO's. The scientist who served as translator, a radio astronomer, emphatically stated that he knew of no sightings of UFO's in the USSR and added with a laugh that if they were only seen in the US, they must be of Soviet origin.

3. At the [redacted] one of the astronomers mentioned that she had heard of some sightings of unidentified objects near the Caucasus. She was unaware of any study being made of them but was open-minded on the subject.

4. The [redacted] main visit was to [redacted] who was very interested in the problem. He had read Menzel's book (which has been translated into Russian) but did not accept his conclusions. [redacted] knew of some sightings in the northern part of the USSR, but said that reports of such sightings are not printed in Soviet newspapers because they are not regarded as scientific observations. (Comment: this is interesting in view of the readiness of Soviet newspapers to print rather fantastic reports of hypotheses and "observations" suggested by the more imaginative members of the scientific community. Apparently some official sanction is needed.) [redacted] has been interested in US reports of UFO's and readily accepts their reality. In fact, it is his personal opinion that the UFO's may originate on Venus. He is well aware of the negative effect of "enlightened" scientific opinion on the interpretation of questionable observations as he has had personal

INFORMATION REPORT INFORMATION REPORT

[redacted]

COUNTRY	USSR	REPORT NO.	OO-B-721/23490-67
SUBJECT	Report on Conversations With Soviet Scientists on Subject of Unidentified Flying Objects in the USSR	DATE DISTR.	18 AUG 67
		NO. PAGES	2
		REFERENCES	16522-64
			(351)
DATE OF INFO.	[redacted]		
PLACE & DATE ACQ.	[redacted]		

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

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INFORMATION REPORT INFORMATION REPORT

[redacted]

APPROVED FOR RELEASE
DATE 6 Dec 75

D- #64

experience of this effect. (Comment: [redacted]

5. At the [redacted], little interest is shown in the UFO question. [redacted] mentioned that he and several other astronomers had been out in the countryside one evening and had seen a curious, reddish object flashing through the sky that they were convinced was neither a satellite nor a meteorite. However, their immediate interpretation was that this object might have been a fragment of a satellite or rocket returning from orbit, burning up in the atmosphere. [redacted] thought that UFO's had been seen in the USSR but he could not be specific as to locations and characteristics.

6. At the [redacted] again little interest was shown. One of the astronomers, [redacted] was with the group mentioned by [redacted] and confirmed the observation of a peculiar object. He did not discuss the experience in detail but clearly had been struck by the possibility that the object might have been a "saucer."

7. At the [redacted] there was considerable interest. The institute includes [redacted] presided over by [redacted] However, the initial discussion of the problem was with the director of the institute, [redacted] He too had read Menzel's book, but considered it an adequate treatment of the subject which he consequently felt was closed. He indicated that no observations of UFO's had been made by his staff and that they had received no reports of such observations. However, when the [redacted] proceeded to indicate the results of McDonald's critical study of the problem, [redacted] readily conceded that there might be more to it and concluded by stating that it was "clearly still an open question."

8. Another astronomer mentioned that in the northern part of Kazakhstan there had been repeated sightings of ball lightning. [redacted] had sent a team out to investigate and discovered that what was being seen were reflections of automobile headlights from an inversion layer.

9. Later, a discussion was held with [redacted] He was not very impressed with Menzel's book, but was also not impressed with the significance of the phenomenon. It is possible that some interest was kindled that might lead to additional investigations.

10. A stellar spectroscopist, [redacted] was also interested in this problem. [redacted] She was also dissatisfied with Menzel's book and felt that there was definitely an opportunity for additional research.

11. The general feeling one gets is that no official treatment of the UFO problem has been given in the USSR. Instead people refer to the US work, principally Menzel's book, to demonstrate the absence of real scientific problems. At the same time, there is an almost universal awareness of the history and characteristics of the phenomenon often associated with considerable interest. The result is that a demonstration of the inadequacy of US official explanations coupled with some proof of the reality of the observations might excite enthusiasm more rapidly among Soviet astronomers than among their US counterparts who are more strongly influenced by the official ridicule associated with UFO's in the US.

- end -

[redacted]

11

CENTER ROUTING SLIP

FROM	DATE
	24 March '67

TO		INITIALS	DATE	REMARKS
DIR	1	ACL		The original & 3 copies sent to Dr. Ratchford 27 March '67. He will forward them on to Dr Condon.
*	2		4-11	
	3		4-11	
1.4				
				*2 — This looks OK to me would you check and if you see any "big" blooper tell Steve? Otherwise let her roll. ACL

T-1

IP FM 35 (5-65) DESTROY PREVIOUS EDITIONS

[redacted]

TITLE: [redacted]

DOCREFERENCE: 0033211192375, 08MAY75, 2PP

[redacted] USSR [redacted]

INFODATE: 7504, [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

APPROVED FOR RELEASE
Date 19 May 89

19

[illegible]

[redacted]

[redacted]

[redacted] ON ONE OCCASION [redacted] ASKED IF THE U.S. FORECAST CENTER HAS EVER BOTHERED WITH UFO SIGHTINGS. HE EXPLAINED THAT AT ONE TIME THE [redacted] AND [redacted] IN PARTICULAR, HAD BEEN PLAGUED WITH CALLS AND QUESTIONS ABOUT UFO SIGHTINGS. HE SAID THAT

[redacted]

[redacted]

SOME OF THEIR SCIENTIFIC BALLOON FLIGHTS HAD PROMPTED SOME OF THEM. NOW, HE SAID, HE NEVER GETS THESE CALLS ANYMORE AND HALF JOKINGLY SURMISED THAT SOMEONE MUST HAVE MADE A POLITICAL DECISION THAT THEY WERE NOT TO BE SIGHTED ANYMORE.

[redacted]

ACC NR: AP8004256 SOURCE CODE: UR/9060/68/000/007/0027/0029

AUTHOR: Zigel, F. (Doctor of technical sciences, Assistant professor)

ORG: none

TITLE: Unidentified flying object

SOURCE: Soviet Life, no. 2, 1968, 27-29

TOPIC TAGS: atmospheric optic phenomenon, unidentified flying object, meteorite

ABSTRACT: The author (Moscow Aviation Institute) presents several striking and reliable UFO observations and refutes the theory of U. S. astrophysicist Menzel and others that until recently no scientific study of UFOs has been made in the Soviet Union. He claims that the prevailing view that UFOs are common optical phenomena in the earth's atmosphere is wrong and due to the fact that there was no collection of UFO observations. The general impression was that flying saucers are fantasies. This situation is beginning to change.

In 1968 the Nauka Publishing House of the USSR Academy of Sciences is scheduled to publish a book entitled *Populated Outer Space*, edited by Academician Boris Konstantinov, Vice President of the USSR Academy of Sciences, and written by distinguished Soviet and foreign contributors, including Americans.

Card 1/4

ACC NR: AP8004256

In May 1967 a sponsoring group of scientists, the military, writers, and public figures met to form an unofficial body whose purpose would be to conduct a preliminary scientific investigation of UFOs.

The organization, set up in October 1967, is called the UFO Section of the All-Union Cosmonautics Committee, with headquarters at the Central House of Aviation and Cosmonautics in Moscow. Air Force Major General Porfiri Stolyarov was elected chairman of the section.

The hypothesis that UFOs originate in other worlds, that they are flying craft from planets other than earth, merits the most serious examination.

Observations show that UFOs behave "sensibly." In a group formation flight they maintain a pattern. They are most often spotted over airfields, atomic stations, and other very new engineering installations. On encountering aircraft, they always maneuver so as to avoid direct contact. A considerable list of these seemingly intelligent actions gives the impression that UFOs are investigating, perhaps even reconnoitering.

Curiously enough, the number of UFO observations increases as Mars approaches the earth. Is this pure coincidence?

Card 2/4

1902 2028

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ACC NR: AP8004256

Some people think that UFOs have appeared in the earth's atmosphere only during the past two decades. This is not the case. The UFO phenomenon has been observed throughout the history of mankind. There are medieval and ancient reports strikingly similar to ours.

Among the earlier UFO reports, as an example, may be the well-documented observations of a "large saucer" in 1882 and a "procession of bolides" in 1913. These reports still await investigation.

The most remarkable UFO phenomenon is the famous "Tungusky meteorite." In recent years Soviet scientists have established that the Tungusky explosion had every parameter of an atmospheric nuclear blast. *The USSR Academy of Sciences Reports* (Volume 172, Nos. 4 and 5, 1967) include studies by Alexei Zoletov which attempt to prove that the Tungusky body could not be a meteorite or a comet.

In the summer of 1967 the Joint Institute of Nuclear Research at Dubna published a study by Vladimir Mekhedov, who concludes that the Tungusky blast left considerable residual radioactivity. Finally, as recently as 1966, after analyzing the sum total of observations on the Tungusky body's flight, this writer showed that before the blast the Tungusky body described in the atmosphere a tremendous arc of about 375 miles in extent (in azimuth), that is, carried out a maneuver.

All these new results warrant the conclusion that the Tungusky body seems to have been an artificial flying craft from some other planet.

Card 3/4

ACC NR: AP8004256

Should this be finally confirmed by investigations now in progress, the significance of the Tungusky disaster would be inestimable.

But this, incidentally, will pose new problems. If we are indeed being studied by creatures from other planets, what is their purpose? Why are they so studiously avoiding any direct contact? Is their unsociability the result of so high a level of development that they study us from that "height" just as we look upon and study ants? Or is there still the possibility of common understanding since we are born in the same Universe and obey the same laws of nature?

The study of UFOs may lead to quite different conclusions and present mankind with quite different problems.

The important thing now is for us to discard any preconceived notions about UFOs and to organize on a global scale a calm, sensation-free, and strictly scientific study of this strange phenomenon. The subject and aims of the investigation are so serious that they justify any efforts. It goes without saying that international cooperation is vital. (NC)

SUB CODE: 01,04,03/ SUBM DATE: none/ ATD PRESS: 6092

Card 4/4

A10

8 May 1967

MEMORANDUM FOR THE RECORD

SUBJECT: UFO Briefing for Dr. Edward Condon, 5 May 1967

1. At 0900 on 5 May 1967, presented a briefing covering his analysis of the Zanesville, Ohio, UFO photography. The briefing was given in the conference room, and in attendance were Dr. Edward Condon, University of Colorado; Dr. Robert Lowe, University of Colorado; Dr. William Hartman, University of Arizona; Dr. Charles Reed, National Research Council; Dr. Thomas Hatchford, U.S. Air Force, and briefing was very well received by Dr. Condon and his colleagues, and they were most enthusiastic. They were impressed with the scope of the analysis had conducted, which included ground survey techniques, established and new mathmatical analysis, and photogrammetric techniques and densitometric traces. Dr. Condon stated he had for the first time a scientific analysis of a UFO that would stand up to investigation. Dr. Condon and members of his group questioned in detail during and after the analysis and were very impressed with the quality of his work.

2. Preliminary arrangements were made to get in contact with Dr. Lowe, University of Colorado, so that contractual arrangements could be made to carry on analysis by but under financing from U.S. Air Force/University of Colorado. To start this procedure, contacted and suggested that he call Dr. Lowe to initiate the appropriate discussions. I understand this was followed through later in the day. This would transfer most of the future analysis to the University of Colorado control, but Dr. Condon indicated he wished to keep a channel open into our organization. He was most appreciative of the unofficial role NPIC had played in assisting the development of this special photogrammetric technique to analyze unscheduled photography.

3. There was discussion held concerning methods of interesting the American public in participating in UFO photography. No specific conclusions were drawn, but it was suggested that it might be advisable to review all the photography NICAP holds, and conduct photogrammetric analyses on any that have the appropriate and necessary information available. This would put Dr. Condon in a position to say that he had reviewed and analyzed

T-21

SUBJECT: UFO Briefing for Dr. Edward Condon, 5 May 1967

all the photography in NICAP files, and was now depending on the American public to furnish him new photography. Also discussed was the possibility of making available to police officers, on military posts, airline pilots, and such people, polaroid cameras for instant use. No conclusions were arrived at, but some interesting thoughts were tabled. It was, however, felt by all that more publicity was needed.

4. report on his analysis of the Zanesville photography will be forwarded to in the near future for distribution to Dr. Ratchford and Dr. Condon.

9 April 1968

Nothing But the Facts on UFOs

or

Which Novosti Writer Do You Read?

1. Whether you believe in unidentified flying objects (UFOs) or not, Novosti (APN -- the Soviet "unofficial" news agency) agrees with you. We are forwarding attached reproductions of two articles which argue both sides of the issue:

a. "Unidentified Flying Objects" by Felix Zigel, Doctor of Science (Technology), Assistant Professor, Moscow Aviation Institute, appearing in the February 1968 issue of Soviet Life (counterpart to USIA's America) for which APN supplies all materials; and

b. "'Flying Saucers'? They're a Myth!" by Villen Lyustiberg, APN Science Commentator, which originally appeared in the 16 February 1968 issue of Moskovsky Komsomolets, and which APN released in English translation on 12 March 1968.

The first article takes UFOs quite seriously; the second laughs them off and even claims the U.S. publicizes them to divert people from its failures and aggressions.

2. It is not surprising that two writers take opposing views on so controversial a subject, or that one adds a dollop of propaganda. It is surprising to find any disagreement on any subject in Soviet media, especially in materials made available by the same agency to approximately the same readership. The irony is obvious.

3.

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3.

APPROVED FOR RELEASE
DATE 16 Nov 78

D-#123

4.

3 Attachments
2 unclassified articles (para 1)
1

Tuesday, March 12, 1

"FLYING SAUCERS"? THEY'RE A MYTH!

Villen Lyustiberg; APN Science Commentator

In the last 20 years publicatio of literature on "unidentified flying objects" has advanced to one of the first places in the world. This problem is dealt with by numerous associations and clubs.

Are these "flying saucers" just imagination or reality?. Thousands of recorded statements by eye-witnesses seem to show that "there must be something in it". But let us try to look all these materials from a different stand. So, as the convinced supporter of the "saucer" theory say almost ever time, you can draw your own conclusion while we give you.

"Facts Only"

Kenneth Arnold, an American pilot, is the "godfather" of flying saucers. It w he who noticed in 1947 nine shining discs flying in formation at the speed of about 3,000 km an hour.

The next encounter with saucers had a tragic outcome. In January 1948, an immense flying saucer appeared over the Nox US Air Base. Pursuing it Captain Thomas Manthell perished. The last thing he reported from an altitude of 9,000 metres was that he saw an object and was going to approach it.

This story found extensive response. Many considered it to be a stern warnin of unknown envoys from other planets to leave them alone. There was a great deal of a talk about the mysterious death of the pilot. It was received as undoubted proof of the existence of mighty forces still unknown to us.

But the results of a thorough investigation by US authorities received much less publicity. The mysterious "saucer" proved to be nothing but a thin-walled plastic balloon made by US Naval Forces under the secret "Skyhawk Operation" project.

Such balloons could rise to an altitude of 30,000 metres. Meanwhile, Thomas Manthell pursuing it, forgot that he had no oxygen apparatus on board his craft.

We know of stories about encounters and even hand-to-hand fights with pilots of craft landing from other planets. They were shot at, but without success.

A saucer out down a tree on the Amazon River shore and disappeared in the turbid stream. It was never recovered. Another saucer glided over the earth like

an injured bird and almost crashed before the eyes of witnesses. But "having spit out" several pieces of metal, it levelled out its course and flew off. Delivered to the police, the metal proved to be ordinary tin.

An abandoned silvery disc was found in the deep rock-coal seams in Norwegian coal mines on Spitzbergen. It was pierced and marked by micrometeor impacts and bore all traces of having performed a long space voyage. It was sent for analysis to the Pentagon and disappeared there.

Nothing but a saucer put out of commission a high-voltage power transmission line in 1965 and thus plunged several large American cities into darkness for six hours.

But the most thrilling masterpiece of this sort was probably the "Interview w a Man from Venus" published at the close of 1967 by the West German Stern magazine. This materialized blue-eyed "superman", a version of Nietzsche's "blond beast", proved to be a secret service agent of the Pentagon. He was 190 cm tall, spoke excellent English (it was English indeed!) and could breathe freely in our atmosphere without any devices. His modest fibre suitcase contained an unusual silvery suit, flexible like silk and so hard that a diamond drill broke off it.

The man from Venus said that he could walk freely in such a suit over the surface of the hottest stars, ignoring all powerful gravitational fields.

Maybe these "facts" will do?

How Can They Be Studied?

It is easier to ask this question, than to answer it. These flying saucers -- they are like Our Lady: they appear to those who believe in them. And they persistently fail to show themselves to air observation posts, meteorologists and astronomers, i.e. precisely to those who can give us accurate information and trustworthy descriptions of a flying object.

Experiments that do not repeat themselves, or the chance appearance of a phenomenon always either handicap the possibility of investigation considerably or exclude it altogether.

Nowhere in the world is there EVEN ONE trustworthy stereoscopic photograph making it possible to trace from two points simultaneously the outlines of a solid flying object clearly. All photographs that exist have been made with single-lens cameras and always leave a margin for doubt.

A series of such photographs amazingly resembles a straw hat with a black silk ribbon, thrown into the air. Others undoubtedly prove to be internegatives obtained from two combined slides, for instance, that of a landscape and that of a strangely designed craft drawn on white paper. Modern photographing techniques allow photographs to be produced which no expert will ever prove to be counterfeit. They are real. But they do not show strangers from space; they show quite ordinary earthly objects unexpectedly foreshortened -- pots, pans, plastic toys, and the like.

Are there photographs which evoke no doubts whatsoever? Yes, there are. They always show shining objects of a circular or oval shape with vague outlines. Most

likely these photographs show ball lightning. Incidentally, the nature of the lat has not been fully elucidated yet either, due to the vagueness of the place and ti of its formation. However, no one ever thought of ascribing a cosmic origin to it

Even with a superficial analysis, mysterious flares on clouds proved to be reflections of electric welding, warning lights of airplanes in the area of airpor or distant summer lightning. And the November 1967 "saucer" over Sofia proved to a high-altitude NATO reconnaissance balloon.

Among the most serious works devoted to an investigation of the problem, there are two which ought to be mentioned. One of them is the book "Flying Saucers" by Donald Menzel who explains almost all cases of their appearance by disturbances in the Earth's or Sun's atmosphere. Our planet travels in the upper layers of the Sur atmosphere where clots of high-temperature plasma are moving freely.

The other is a book by Frank Edwards. It is a collection of statements, notes and records of eye-witness testimony classified into several sections. True, Edwar often qualifies his source as a witness who did not wish to have his name mentioned but who may be fully trusted, or that the trustworthiness of the witness is confirmed by numerous of his countrymen, but he cannot mention his name so far for a number of reasons. That's not very convincing, is it?

For Whom Is It Not a Myth?

They are those for whom science is a business. Taking advantage of the lively interest of people for everything that is strange and unusual, numerous lecturers in the West appear before audiences with reports and stories, invite eye-witnesses to such lectures, and demonstrate photographs and slides. Most of these lecturers are nothing but ordinary quacks. True, there are people who are sincerely convinced in the truth of what they are talking about. They strive to draw the interest of the public to certain phenomena but, we are sorry to say, there is more harm than use in that.

The Americans Lesly and Adamski are the most outright frauds among them. Using their "good friendly relations" with strangers from other planets, the enterprising businessmen "visited" Mars, the Moon and Venus, learned from our cosmic neighbours to treat by simple and accessible methods such diseases as cancer, glaucoma, hypertension and others which afflict the human race. Their lectures, motion-pictures, books and medical practice have brought them many hundred thousand dollars out of the pockets of trusting listeners and patients already.

We may trace a clearly defined regularity in the appearance of large numbers of flying saucers. And, strange as it might seem, this regularity is closely connected with earthly events.

The first "cycle" of four years began in 1947. The number of saucers always grows sharply on the eve of presidential elections in the USA. This is difficult to explain. Maybe people on other planets lay bets as to who will win in the next elections -- the republicans or the democrats. Perhaps, these saucers appear in order to divert the voters' thoughts from the again non-fulfilled presidential programme and promises to make the country a "great" and "prospering" society.

There is another cycle. True, it is not determined by time. Saucers flooded the earth's atmosphere in 1951, in the months when the American troops were waging a ruthless, annihilating war against the Korean People's Democratic Republic.

The next invasion of saucers was in 1965-1966, when 35 American advisers in South Vietnam were quickly replaced by half-a-million-strong army equipped with the latest arms and intending to rout the National-Liberation Front within two weeks and when the President of the United States of America, without declaring war and in violation the constitution of his own country, gave the order that the peaceful population of North Vietnam be subjected to brutal bombings.

In short, when newspaper circulation drops, when readers get tired of economic and politics and when they are to be diverted from "irrelevant" questions, the Western businessmen resort to three reliable, "always fresh" sensations: Flying Saucers, the Sea Serpent (sometimes it is substitued by the Loch Ness Lake monster), and the Snow Man.

It is much nicer to read about mysterious craft—from Venus than to think of the future, of the wage freeze, of growing prices or unemployment. Statesmen in imperialist countries resort to this "information" quite deliberately. For them the flying saucers are not a myth, but a well-camouflaged means for misinforming the people. And nothing but that.

(Moskovsky Komsomolets, February 16. In ful

THE END

THE LIFE
FEBRUARY 1968

UNIDENTIFIED FLYING OBJECTS

By Felix Zigel
Doctor of Science (Technology)
Assistant Professor,
Moscow Aviation Institute

First the facts: several striking and reliable UFO observations; and then, conclusions.

First Account

THE PLACE of observation is Kazakhstan, the field camp of a geophysical expedition from a Leningrad research institute. The nearest populated locality, Koktal, is 11 miles away. The time of observation is August 16, 1966, about 11 P.M. local time.

According to M[illegible]r of Geology and Mineralogy Nikolai [illegible]chevanov, the camp chief, a strange, luminous body suddenly appeared over the mountains on the eastern slope of the valley. It was moving from north to south, and its visible diameter was one and a half times longer than the Moon's.

A few seconds later the body disappeared behind a mountain top, reappeared and headed southeast, keeping constant speed and height above the Earth. The mysterious object was lens-shaped and bright, the edges being somewhat less luminous than the center.

The body described an arc in the sky and disappeared behind the mountains, leaving no trace.

The unidentified flying object (UFO) was observed by eight scientific workers, members of the geophysical expedition.

Second Account

On July 26, 1965, Latvian astronomers Robert Vitolnick, Yan Meldezis and Esmeralda Vitolnick were studying noctilucent clouds at an observation station at Ogre. At 9:45 P.M. they noticed an unusually bright star moving slowly in a westerly direction. Looked at through binoculars with a magnification of eight diameters, the "star" resolved itself into a small, flat speck. The telescope then disclosed the following incredible picture.

In the heart of a lens-shaped disc, which the astronomers estimated to be about 325 feet across, was clearly evident a thickened part, a small sphere. Around the disc, at a distance of two diameters, were three spheres resembling the one in the center. The spheres slowly rotated around the disc as the entire system diminished in size, gradually leaving the Earth. Some 15 to 20 minutes later the spheres began to move away from the disc, as if receding in different directions. The sphere in the center also left its place and [illegible] Finally, at 10 P.M. all three

On August 2, 1967, at 11:30 P.M. Moscow time, while crossing the Norwegian Sea in a westerly direction, *Izherak* sailors witnessed this unusual phenomenon, said the radiogram:

"There were three of us in the cabin—Captain Markov, Senior Engineer Ivanov and myself. Sysoyev, n[illegible] on duty, reported a strange phenomen[illegible] in the sky. We ran to the bridge and saw a sphere-like whitish spot moving southward.

"A few minutes later a bright spot flared up high in the sky. For a couple of seconds it rushed headlong from west to east at an angle of 45 degrees to the Earth, getting much larger. Suddenly it came to a stop and with a play of bright rainbow colors (yellow predominating) began throwing off sparks and became enveloped in a white shroud.

"Once again the sphere-like white nebula began moving south. The procedure was repeated four times. On the fifth and last time the spot's behavior changed. It stopped midway, turned over and assumed the shape of an egg with the thicker end up. Then a powerful white jet squirted from the lower end, after which the 'egg' grew pale, became enveloped in white mist and, with its white tail, began to head southward."

All this strange celestial activity was visible for an hour and then vanished into thin air.

Fourth Account

Not one but several reports came from astronomers at the Mountain Astrophysical Station, USSR Academy of Sciences, 12 miles from Kislovodsk, Caucasus.

In July 1967 the station received letters from local newspapers reporting the flight of a strange reddish crescent across the sky at 9:20 P.M. on July 17.

In the very early morning of July 18, 1967, astronomer H. I. Potter, who was observing the Moon at the Mountain Station, noticed a strange formation against a clear starry sky at 2:50 A.M. Moscow time. A white cloud appeared in the northeast at an elevation of about 20 degrees. Its diameter was twice as long as that of the Moon but its nose was several times less bright.

The cloud itself had a dense milky-white color, with a rosy-red nucleus clearly discernible near its northern end. The cloud expanded and grew paler. A few minutes later the white cloud dispersed completely, but the reddish nucleus remained. Toward dawn it lost its outlines and then disappeared. Photographs showing its changes were taken.

At 3:40 P.M. on August 8, 1967, at the [illegible] opens in half a minute. A bright star of the first magnitude was moving at a constant distance ahead of the crescent.

As it moved away from the observers, the crescent dwindled, turned into a small disc and then instantly disappeared.

The mysterious object was seen by 10 of the station's scientific workers. It was also observed in Kislovodsk. According to Sazanov, the crescent was 12 miles away, and it was no less than 500 feet across.

Optical Illusion?

Let us stop here and draw some conclusions.

Even if all the UFO evidence amounted to no more than these four accounts, it is clear that the evidence exists. The fact of the matter is, however, that many thousands of such observations have been documented in the past 20 years. They come from dozens of countries and virtually every corner of our planet, including the Arctic and Antarctic. The UFO phenomenon is too widespread and popularly accepted to be dismissed lightly.

A growing number of serious scientists are not satisfied with explanations characterizing the sightings as visual aberrations. It goes without saying that the phenomenon attracts and will unfortunately continue to, all sorts of publicity-seekers. But we do not stop using money because there are counterfeiters. The task of science is, precisely, the obligation to distinguish between the false and the true.

Thus, if science considers flying saucers a hallucination, it still must explain the cause of this global psychosis (illness). That may well be as difficult to establish as the true nature of UFOs.

The well-known American astrophysicist Donald Menzel says that flying saucers are optical phenomena in the Earth's atmosphere. Because of Professor Menzel's scientific prestige the explanation is generally accepted. But it does not hold water. As soon as we go on from this generalization to concrete interpretations of concrete observations, it becomes evident that UFOs will not reduce themselves to optical phenomena of the mirage, rainbow or halo type. Try the Menzel explanation on the four accounts we cited earlier. Nothing intelligible will emerge. What we seem to be dealing with here is a kind of reality still unexplored.

The appearance of UFOs is almost always accompanied by a luminescence of air and the formation of an atmospheric plasma. This fact is the basis for the "plasma" hypothesis of UFOs as accumulations of atmospheric plasma of the ball lightning type. But this explanation does not hold up either. Ball lightning is always a thunderstorm product, and

First the facts: several striking and reliable UFO observations; and then, conclusions.

First Account

THE PLACE of observation is Kazakhstan, the field camp of a geophysical expedition from a Leningrad research institute. The nearest populated locality, Kokiul, is 11 miles away. The time of observation is August 16, 1960, about 11 P.M. local time.

According to M[illegible] of Geology and Mineralogy Nikolai [illegible]chevanov, the camp chief, a strange, luminous body suddenly appeared over the mountains on the eastern slope of the valley. It was moving from north to south, and its visible diameter was one and a half times longer than the Moon's.

A few seconds later the body disappeared behind a mountain top, reappeared and headed southeast, keeping constant speed and height above the Earth. The mysterious object was lens-shaped and bright, the edges being somewhat less luminous than the center.

The body described an arc in the sky and disappeared behind the mountains, leaving no trace.

The unidentified flying object (UFO) was observed by eight scientific workers, members of the geophysical expedition.

Second Account

On July 26, 1963, Latvian astronomers Robert Vitolnick, Yan Mekteris and Emerald Vitolnick were studying noctilucent clouds at an observation station at Ogre. At 9:45 P.M. they noticed an unusually bright star moving slowly in a westerly direction. Looked at through binoculars with a magnification of eight diameters, the "star" resolved itself into a small, flat speck. The telescope then disclosed the following incredible picture.

In the heart of a lens-shaped disc, which the astronomers estimated to be about 125 feet across, was clearly evident a thickened part, a small sphere. Around the disc, at a distance of two diameters, were three spheres resembling the one in the center. The spheres slowly rotated around the disc as the entire system diminished in size, gradually leaving the Earth. Some 15 to 20 minutes later the spheres began to move away from the disc, as if receding in different directions. The sphere in the center also left its place and moved away. Finally at 10 P.M. all these shining emerald green bodies were so far away that the astronomers lost sight of them.

This strange picture was observed in the northwestern part of the sky at about 60 degrees above the horizon. The astronomers estimated that the enigmatic objects were about 60 miles above the Earth.

Third Account

A long radiogram arrived at the office of the magazine *Smena*, for which I had written an article on UFOs. It was sent by First Mate Barbashin on behalf of the crew of the Soviet ship *Isherak*.

On August 2, 1967, at 11:30 P.M. Moscow time, while crossing the Norwegian Sea in a westerly direction, *Isherak* sailors witnessed this unusual phenomenon, said the radiogram:

"There were three of us in the cabin—Captain Markov, Senior Engineer Ivanov and myself. Syssoev, n[illegible] on duty, reported a strange phenomen[illegible] in the sky. We ran to the bridge and saw a sphere-like whitish spot moving southward.

"A few minutes later a bright spot flared up high in the sky. For a couple of seconds it rushed headlong from west to east at an angle of 45 degrees to the Earth, getting much larger. Suddenly it came to a stop and with a play of bright rainbow colors (yellow predominating) began throwing off sparks and became enveloped in a white shroud.

"Once again the sphere-like white nebula began moving south. The procedure was repeated four times. On the fifth and last time the spot's behavior changed. It stopped midway, turned over and assumed the shape of an egg with the thicker end up. Then a powerful white jet squirted from the lower end, after which the 'egg' grew pale, became enveloped in white mist and, with its white tail, began to head southward."

All this strange celestial activity was visible for an hour and then vanished into thin air.

Fourth Account

Not one but several reports came from astronomers at the Mountain Astrophysical Station, USSR Academy of Sciences, 12 miles from Kislovodsk, Caucasus.

In July 1967 the station received letters from local newspapers reporting the flight of a strange reddish crescent across the sky at 9:20 P.M. on July 17.

In the very early morning of July 18, 1967, astronomer H. I. Potter, who was observing the Moon at the Mountain Station, noticed a strange formation against a clear starry sky at 2:30 A.M. Moscow time. A white cloud appeared in the northeast at an elevation of about 20 degrees. Its diameter was twice as long as that of the Moon but its nose was several times less bright.

The cloud itself had a dense milky-white color, with a convexed nucleus clearly discernible near its northern end. The cloud expanded and grew pale. A few minutes later the white cloud dispersed completely, but the reddish nucleus remained. Toward daybreak it lost its outlines and then disappeared. Photographs showing its changes were taken.

At 8:40 P.M. on August 8, 1967, at the same Mountain Station astronomer Anatoli Saranov observed an unfamiliar flying object. It was shaped like an asymmetrical crescent, with its convex side turned in the direction of its movement. Narrow, faintly luminous ribbons resembling the condensation trail of a jet plane followed behind the horns of the crescent. Its diameter was two-thirds that of the Moon, and it was not as bright. It was yellow with a reddish tinge.

The object was flying horizontally in the northern part of the sky, from west to east, at about 20 degrees above the horizon. It covered the distance from Ursa Major to Cassiopeia in about 3 minutes. The object of first magnitude was moving at a constant distance ahead of the crescent.

As it moved away from the observers, the crescent dwindled, turned into a small disc and then instantly disappeared.

The mysterious object was seen by 10 of the station's scientific workers. It was also observed in Kislovodsk. According to Saranov, the crescent was 12 miles away, and it was no less than 500 feet across.

Optical Illusion?

Let us stop here and draw some conclusions. Even if all the UFO evidence amounted to no more than these four accounts, it is clear that the evidence exists. The fact of the matter is, however, that many thousands of such observations have been documented in the past 20 years. They come from dozens of countries and virtually every corner of our planet, including the Arctic and Antarctic. The UFO phenomenon is too widespread and popularly accepted to be dismissed lightly.

A growing number of serious scientists are not satisfied with explanations characterizing the sightings as visual aberrations. It goes without saying that the phenomenon attracts and will unfortunately continue to, all sorts of publicity-seekers. But we do not stop using money because there are counterfeiters. The task of science is, precisely, the obligation to distinguish between the false and the true.

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Saucers and Halo

To find a clue to the nature of UFOs, we must study all the reports on these surprising and, to my mind, real objects. Only a scientific analysis will reveal the truth. What is, however, clear already is that UFO phenom-

enon can be objectively analyzed and classified. The UFO classification adopted by foreign investigators is also confirmed by Soviet observers.

By day, when observed from Earth or planes, UFOs appear as bright discs with a metallic tinge. Assistant Professor Vyacheslav Zaitsev observed such a flying saucer in 1961, along Bolgoyev, from a Tu-104 aircraft making a scheduled flight. The huge bright metal disc slid under the liner's belly, made a turn and at some distance took a course parallel with the aircraft. A bulging core resembling a cabin could be seen in the heart of the disc. After flying alongside the plane for several seconds, it swerved abruptly and disappeared.

A similar object was observed by geodetic astronomer Ludmila Tsekhanovich in the summer of 1965 near Sukhumi, Caucasus. The UFO made a swift maneuver over the sea, then headed for the mountains. The astronomer was, however, able to see that the central protruding part of the disc had holes which seemed to be lit from the inside.

UFO movements are peculiar. Sometimes they hover over the earth for tens of minutes. In flight they can develop incredible speeds and accelerations.

At 9:45 on the evening of June 17, 1966, on the outskirts of Eulista a team of geophysicists from the Institute of Oil and Gas Industry, Volgograd, led by V. G. Kiselev, noticed a reddish object moving across the sky. It was shaped like a small disc.

Suddenly the body began to fall swiftly along a helical trajectory, its reddish color changing to bright white-blue. Then there was a sort of flare, and instead of the body a bright-blue round cloud appeared. It quickly spread out and melted away.

Depending on the viewing angle, flying discs look flattened or cigar-shaped or spherical. In some cases a UFO appears as a crescent, turning into a disc before your eyes.

The belief that UFOs are real is also borne out by the fact that these enigmatic objects are not only visible to the naked eye, but leave distinct images on photographic plates and are recorded by such impartial "witnesses" as radar screens.

Air Force Major Baidakov, on a night mission above the Odessa Region on April 4, 1966, noticed on the screen of his plane's radar a strange object which was also spotted by ground-based radar units. Within 15 minutes the object dropped from 31 to 13 miles, in the next quarter of an hour to 15 miles, and in the next 10 minutes to 11 miles. The UFO remained unidentified.

Maneuver and Pursuit

The well-known Soviet pilot, chief navigator of Soviet polar aviation Valentin Akkuratov, describes one of his encounters with flying discs:

"In 1956, engaged in strategic ice reconnaissance in a Il-14 plane in the area of Cape Isemp (Greenland), we dropped down from the clouds to fair weather and suddenly noticed an unknown flying craft moving on our portside parallel to our course. It looked very much like a large pearl-colored bun with in the blue sky. We spotted no aerials, superstructure, wings or portholes on that disc. Nor did we see an exhaust gases or condensation trail. It flew at what seemed to us an impossible speed."

No Prejudices

Until recently no scientific study of UFOs has been made in the Soviet Union. More than that, the prevailing and, in my opinion, mistaken view was that UFOs are common optical phenomena in the Earth's atmosphere. There was no collection of UFO observations, and the general impression was that flying saucers are fantasies. The situation now is changing.

In 1968 the Nauka Publishing House of the USSR Academy of Sciences is scheduled to bring out a book titled *Populated Outer Space*, edited by Academician Boris Konstantinov, Vice President of the USSR Academy of Sciences. The distinguished Soviet and foreign contributors include: Academicians Viktor Ambartsumyan, Alexander Oparin, Alexander Imshenetsky, Andrei Kolmogorov; Corresponding Members of the USSR Academy of Sciences Vasili Kuprevich, Alexander Vologdin, Iosif Shklovsky; and eminent foreign scientists Melvin Calvin, William Pickering, Frank Salisbury (USA), Norman Pirie, Bernard Lovell (Great Britain), Hans Freudenthal (Netherlands), Giuseppe Piccardi (Italy) and many others.

The anthology will have a special section devoted to the UFO problem, with contributions from American scientists Joseph Hynek, James McDonald, Jack Valley, and Frank Salisbury, articles by Soviet writers and UFO observations made in the Soviet Union.

Soviet observations of UFOs, like those I cited earlier, were not taken from a systematic collection of information of this kind; they were spontaneous responses to my article in Science. This fact warrants the conclusion that there have been many more UFO observations in the USSR. We have already collected some dozens of well-documented reports and accounts.

In May 1967 a sponsoring group of scientists, the military, writers and public figures met to form an unofficial body whose purpose it would be to conduct a preliminary scientific investigation of UFOs. Those present included Professor Heinrich Ludwig; Doctors of Science Nikolai Zhitov and Igor Bestuzhev-Lada; chief navigator of Soviet polar aviation Valentine Akkuratov; Generals Porfiri Stolyarov, Leonid Reino, Georgi Uger and Georgi Zezulkin; twice Hero of the Soviet Union Grigori Sivkov, Master of Science (engineering); Heroes of the Soviet Union Ekaterina Rybalova and Natalia Kravtsova.

The organization, set up October 1967, is called the UFO Section of the All-Union Cosmonautics Committee, with headquarters at the Central House of Aviation and Cosmonautics in Moscow. Air Force Major General Porfiri Stolyarov was elected chairman of the section.

Those of us who are participating in this new and exciting undertaking have an ambitious program of work ahead. The first step is to organize the collection of reliable nature of UFOs in terms of familiar phenomena. Judging by other surprises, nature has some in store for us here too, and we must be ready for perhaps a radical "reassessment of values."

The hypothesis that UFOs originate in other worlds, that they are flying craft from planets other than Earth, merits the most serious examination.

Observations show that UFOs behave "sensibly." In a group formation flight they maintain a pattern. They are most often spotted over airfields, atomic stations and other very new engineering installations. On encountering aircraft, they always maneuver so as to avoid direct contact. A considerable list of these seemingly intelligent actions gives the impression that UFOs are investigating, perhaps even reconnoitering.

Curiously enough, the number of UFO observations increases as Mars approaches the Earth. Is that pure coincidence?

Some people think that UFOs have appeared in the Earth's atmosphere only during the past two decades. This is not the case. The UFO phenomenon has been observed throughout the history of mankind. There are medieval and ancient reports strikingly similar to ours.

Among the earlier UFO reports, as an example, may be the well-documented observations of a "large saucer" in 1882 and a "procession of bodies" in 1913. These reports still await investigation.

The most remarkable UFO phenomenon is the famous "Tungusky meteorite." In recent years Soviet scientists have established that the Tungusky explosion had every parameter of an air nuclear blast. *The USSR Academy of Sciences Reports* (Volume 172, Nos. 4 and 5, 1967) have studies by Alexei Zolotov to prove that the Tungusky body could not be a meteorite or a comet.

In the summer of 1967 the Joint Institute of Nuclear Research at Dubna published a study by Vladimir Mekhedov, who concludes that the Tungusky blast left considerable residual radioactivity. Finally, as recently as 1966, after analyzing the sum total of observations on the Tungusky body's flight, this writer showed that before the blast the Tungusky body described in the atmosphere a trajectory arc of about 375 miles in extent (in azimuth), that is, carried out a maneuver.

All these new results warrant the conclusion that the Tungusky body seems to have been an artificial flying craft from some other planet.

Should this be finally confirmed by investigations now in progress, the significance of the Tungusky disaster would be inestimable.

But this, incidentally, will pose new problems. If we are indeed being studied by creatures from other planets, what is their purpose? Why are they so studiously avoiding any direct contact? Is their unsociability the result of so high a level of development that they study us from that "height" just as we look upon and study ants? Or is there still the possibility of common understanding since we are born in the same Universe and obey the same laws of nature?

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"In 1976, engaged in strategic ice reconnaissance in a Il-14 plane in the area of Cape Jesup (Greenland), we dropped down from the clouds to fair weather and suddenly noticed an unknown flying craft moving on our portside parallel to our course. It looked very much like a large pearl-colored kite with wavy, pulsating edges. At first we thought it was an American aircraft of an unknown design, and since we did not want to encounter it we went into the clouds again. After we had flown for 10 minutes toward Bear Island, the cloud cover ended abruptly, it cleared ahead and on our portside we saw once again that same unknown craft. Making up our minds to see it at close quarters, we changed our course sharply and began the approach maneuver, jockeying our base at Amderma of the maneuver. When we changed our course, the unknown flying machine followed suit and moved parallel at our speed.

"After Five Minutes of flight the unknown craft sharply altered its course, sped ahead of us and vanished until it disappeared changing.

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Those of us who are participating in this new and exciting undertaking have an ambitious program of work ahead. The first step will be to organize the collection of reliable information on UFOs. That will be done at the outset by the existing systems of astronomical, meteorological and geophysical observatories, satellite and space-rocket tracking stations and the radar installations of civilian airports and the hydrometeorological service. All these organizations can make UFO observations with equipment now available.

In the design stage are special devices for photographing UFOs and recording the radiation and magnetic disturbances which they may be responsible for.

Guests from Other Worlds?

The recorded observations will serve to check hypotheses. These hypotheses should, and, in my opinion, attempt to explain the ing aircraft, they always maneuver so as to avoid direct contact. A considerable list of these seemingly intelligent actions gives the impression that UFOs are investigating, perhaps even reconnoitering.

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Yes, there will be many questions, but all are in the distant future. Our study of UFOs may lead to quite different conclusions and present mankind with quite different problems.

The important thing now is for us to discard any preconceived notions about UFOs and to organize on a global scale a calm, sensation-free and strictly scientific study of this strange phenomenon. The subject and aims of the investigation are so serious that they justify any efforts. It goes without saying that international cooperation is vital.

15 April 1976

The UFO [redacted] was turned over to Dr. [redacted] (ADDS&T) who was also briefed on the developments to date. Dr. [redacted] said he would show the study to a few people to determine possible implications of the ~~infrdx~~ information and would be back to us soon on this matter.

[redacted]

[redacted]

[redacted]

[redacted]

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DATE 17 Jun 78

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FROM THE COMPILERS

Parapsychology (psychoenergetics) is a field involving psychical and biophysical study of informational and energetic possibilities of living organisms.

Parapsychology investigates the complex of phenomena relating to the interaction of living organisms with each other and with the surrounding environment without the mediation of sense organs known to us.

In the foreign literature on parapsychology, this complex of phenomena is designated by the term psi phenomena and also by ESP (extrasensory perception).

Considering the interest of Soviet scientists in experimental and theoretical research abroad in the field of parapsychology and considering that our country does not have a complete bibliographical listing of the most recent foreign literature on this problem, the authors of this work (having at their disposal a large volume of information and contacts with more than 35 countries of the world where parapsychology is being studied) compiled the present bibliography on the given problem.

The listing includes the more important monographs, surveys, and articles on experimental and theoretical studies published in the last 70 years both in special parapsychological journals and in publications from other sources. Inasmuch as parapsychology is a complex problem standing on the boundary of many fields of learning, the compilers have included the more interesting literature on several related problems. The appendix of this listing contains an enumeration of the most important parapsychology journals published in different countries of the world and a foreign bibliography of Soviet investigations in the given field.

The compilers express their deep gratitude to all foreign colleagues, institutes, laboratories, and firms whose courtesy has enabled them to complete this work by telling them of their studies and by maintaining friendly scientific contacts with Soviet investigators.

We would like you to send your wishes, comments, additions, and questions to the following address:

E. K. NAUMOV

Moscow, 121293, Kutuzovskiy Prospekt, 47, Building D, Apartment 44.

PART ONE

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Chapter Three

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2. The Biophysical Effect

Chapter One

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PART THREE

PRINCIPAL LANDMARKS IN THE DEVELOPMENT OF SOVIET PARAPSYCHOLOGY

1. 1922. Creation of a special commission under the Brain Institute, headed by Academician V. M. Bekhterev, to study the problem of mental suggestion.

2. 1924. Eleventh Congress of Psychoneurologists. Reports were delivered for the first time on experimental investigations of mental suggestion.

3. 1926. Creation of a special commission, under the Society for Neurology, Reflexology, Hypnology, and Biological Physics, headed by Academician V. M. Bekhterev.

4. 1932-1937. Fundamental experimental studies were conducted on mental suggestion under the leadership of Prof L. L. Vasil'yev.

5. 1959. Publication of Prof. L. L. Vasil'yev's book Tainstvennyye Yavleniya Chelovecheskoy Psikhiki [Mysterious Phenomena of the Human Psyche], Gospolitizdat.

6. 1960. Organization of a Laboratory for Aeroionization and Electromagnetic Fields under Leningrad State University.

7. 1962. Issue of B. B. Kazhinskiy's book Biologicheskaya Radiosvyaz' [Biological Radio Communication]. Published by the UkSSR Academy of Sciences, Kiev.

8. 1962. Issue of Prof. L. L. Vasil'yev's book Eksperimental'nyye Issledovaniya Myslennogo Vnusheniya [Experimental Studies of Mental Suggestion]. Published by Leningrad University.

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E. K. NAUMOV, L. V. VILENSKAYA, I. V. KLYCHNIKOV

FOREIGN BIBLIOGRAPHY ON PARAPSYCHOLOGY (PSYCHOENERGETICS) AND RELATED SUBJECTS

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FROM THE COMPILERS

Parapsychology (psychoenergetics) is a field involving psychical and biophysical study of informational and energetic possibilities of living organisms.

Parapsychology investigates the complex of phenomena relating to the interaction of living organisms with each other and with the surrounding environment without the mediation of sense organs known to us.

In the foreign literature on parapsychology, this complex of phenomena is designated by the term psi phenomena and also by ESP (extrasensory perception).

Considering the interest of Soviet scientists in experimental and theoretical research abroad in the field of parapsychology and considering that our country does not have a complete bibliographical listing of the most recent foreign literature on this problem, the authors of this work (having at their disposal a large volume of information and contacts with more than 35 countries of the world where parapsychology is being studied) compiled the present bibliography on the given problem.

The listing includes the more important monographs, surveys, and articles on experimental and theoretical studies published in the last 70 years both in special parapsychological journals and in publications from other sources. Inasmuch as parapsychology is a complex problem standing on the boundary of many fields of learning, the compilers have included the more interesting literature on several related problems. The appendix of this listing contains an enumeration of the most important parapsychology journals published in different countries of the world and a foreign bibliography of Soviet investigations in the given field.

The compilers express their deep gratitude to all foreign colleagues, institutes, laboratories, and firms whose courtesy has enabled them to complete this work by telling them of their studies and by maintaining friendly scientific contacts with Soviet investigators.

We would like you to send your wishes, comments, additions, and questions to the following address:

E. K. NAUMOVA

Moscow, 121293, Kutuzovskiy Prospekt, 47, Building D, Apartment 44.

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GREAT BRITAIN

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GERMANY

Zeitschrift fur Parapsychologie und Grenzgebiete der Psychologie (Journal of Parapsychology and Related Fields of Psychology), Freiburg im Bresgau (In German)

AUSTRIA

Grenzgebiete der Wissenschaft (Dowsing and Related Fields)

HOLLAND

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CSO: 0972/72-W

- END -

PROGNOZ-6 AUTOMATIC SPACE STATION LAUNCHED

LD221216Y Moscow TASS International Service in Russian 1140 GMT 22 Sep 77 LD

[Text] Moscow, 22 September, TASS--The automatic station "Prognoz-6" was launched in the Soviet Union today at 0351 Moscow time in accordance with the space research program. It is intended to continue the research begun in 1972 by the "Prognoz" automatic observatory.

Like the previous five stations in the series, "Prognoz-6" will conduct research into the corpuscular and electromagnetic radiation of the sun, solar plasma flows and magnetic fields in the space surrounding the earth with the aim of determining the influence of solar activity on the interplanatary medium and on the earth's magnetosphere, and also research into galactic ultraviolet rays, X-rays and gamma rays. Scientific apparatus built in the Soviet Union, the CSSR and France has been installed on board the station to conduct this research, in accordance with the program of international cooperation in the field of space research. The station weighs 910 kilograms.

The "Prognoz-6" station has been put into a highly elliptical orbit as an earth satellite, with the following parameters: maximum distance from the earth's surface 197,900 km, minimum 498 km, period of rotation round the earth 94 hours 48 minutes, inclination of orbit 65 degrees.

The station was put into its designed trajectory from an intermediate earth satellite orbit.

Apart from scientific apparatus, the station also has on board: a radio transmitter operating on frequency 928.4 megahertz, a radio system for precision measuring of orbit elements and a radiotelemetry system for transmitting data on the operation of the instruments and scientific apparatus to earth.

According to telemetry information, the systems and apparatus on board are operating normally. The coordinating and computing center and institute of the USSR Academy of Sciences are processing the incoming information.

'UNUSUAL' NATURAL PHENOMENON OBSERVED IN KARELIA

LD221326Y Moscow TASS International Service in Russian 1210 GMT 22 Sep 77 LD

[Text] Petrozavodsk 22 September, TASS--The inhabitants of Petrozavodsk, capital of the Soviet Republic of Karelia, have witnessed an unusual natural phenomenon. On 20 September, at about 0400 a huge star suddenly flared up in the dark sky, impulsively sending shafts of light to the earth. This star moved slowly toward Petrozavodsk and, spreading out over it in the form of a medusa, hung there, showering the city with a multitude of very fine rays which created an image of pouring rain.

After some time the luminescent rays ceased. The "medusa" turned into a bright semicircle and resumed its movement in the direction of Lake Onega, the horizon of which was shrouded in gray cloud. A semicircular pool of bright light, red in the middle and white at the sides, then formed in this shroud. This phenomenon, according to the testimony of eyewitnesses, lasted 10-12 minutes.

T-8

The director of the Petrozavodsk hydrometeorological observatory, Yu. Gromov, told a TASS correspondent that the staff of the Karelian meteorological service have not previously observed analogies of this kind in nature. What caused this phenomenon and its nature remains a riddle, because the weather-observation posts did not record any severe deviations in the atmosphere, either in the previous 24 hours or in the time period prior to it.

We also know, stressed Yu. Gromov, that no technical experiments were being carried out at the time. However, although it left behind no material evidence, it is also impossible to describe this rare phenomenon as a mirage, as there were many eyewitnesses who observed it from various parts of the city and whose evidence is identical on many points.

SOVIET WOMEN SET WORLD FLIGHT RECORD IN IL-62

LD221522Y Moscow TASS in English 1459 GMT 22 Sep 77 LD

[Text] Moscow, September 22, TASS--Two world records were set today by the flagship of Aeroflot, the IL-62 jet passenger plane. According to preliminary data, both ground-based instruments and instruments on board the plane recorded that the IL-62, piloted by a crew of six women, had set a world distance record along a closed route--10,388 kilometres. The second world record--average speed along a closed route of 10,000 kilometres, now amounts to 804 kilometres per hour. The plane landed at Moscow's Sheremetyevo airport at 15 hours 22 minutes today.

[redacted]

[redacted]

DIRECTORATE OF OPERATIONS

Domestic Collection Division
Foreign Intelligence Information Report

OCD REPORT NO. 00-B-321/33474-76

COUNTRY USSR

DATE DISTR. 16 November 1976

SUBJECT [redacted] UFO Phenomena [redacted]

NO. PAGES 4

REFERENCES [redacted]

DATE OF INFO [redacted]

THIS IS UNEVALUATED INFORMATION

SOURCE

1.

DIRECTORATE OF OPERATIONS

COUNTRY	USSR	OCD REPORT NO.	OO-B-321/33474-76
		DATE DISTR.	16 November 1976
SUBJECT	[redacted] UFO Phenomena [redacted]	NO. PAGES	4
		REFERENCES	[redacted]
DATE OF INFO	THIS IS UNEVALUATED INFORMATION		
SOURCE			

1.

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1

APPROVED FOR RELEASE
DATE 6 Nov 78

6. [redacted] asked for [redacted] personal opinion of the UFO phenomenon. He was told that 99 percent of these occurrences were traceable to either natural or man-made phenomena such as celestial movement, aircraft or artificial satellites, and that the other one percent cannot be explained--possibly an hallucination. [redacted] then asked, "Do you think it is possible...could there be something coming from outer space?"

7.

8.

9.

10.

[redacted]

[redacted]

T 232104 BIA335 PAGE 01 IN 249999

TOR:241745Z SEP 76 [redacted]

[redacted] 241716Z SEP 76 STAFF

CITE [redacted]

TO: IMMEDIATE DIRECTOR, [redacted]

[redacted]

REF: [redacted]

1. [redacted]

2. [redacted]

3. 23 SEPT [redacted]

WITH PERSONAL REQUEST TO INVESTIGATE UFO SIGHTED MOROCCO.

4. [redacted]

5. [redacted]

6. [redacted]

[redacted]

TOR12417452 SEP 76 [redacted]

[redacted] 2417162 SEP 76 STAFF

CITE [redacted]

TO: IMMEDIATE DIRECTOR, [redacted]

[redacted]

REF: [redacted]

1. [redacted]

2. [redacted]

3. 23 SEPT [redacted]

WITH PERSONAL REQUEST TO INVESTIGATE UFO SIGHTED MOROCCO.

4. [redacted]

5. [redacted]

6. [redacted]

[redacted]

APPROVED FOR RELEASE
DATE 24 Nov 78

D - #132

BANZER SAYS VIOLENCE COULD LEAD TO SUSPENSION OF ELECTIONS

FY161828Y Santiago Chile Domestic Service in Spanish 1730 GMT 16 May 78 FY

[Text] Bolivian President Hugo Banzer has said that the forthcoming elections of 9 July may be suspended if political and electoral violence increases. He said that the government is doing everything to guarantee the tranquillity of the country. These remarks were made by the Bolivian president during a program over the state-owned television network. Banzer has been in power 7 years and hopes to hand over the government to the candidate who wins the elections on 9 July. The Bolivian president also publicly stated his support for the official candidate, Gen Juan Pereda Asbun.

REPORTS CONFLICT ON DETAILS OF FALLEN OBJECT

FY161931Y Sucre Radio La Plata in Spanish 1630 GMT 16 May 78 FY

[Summary] We have received another phone call from our audience requesting confirmation of reports that an unidentified object fell in Bolivian territory near the Argentine border. We can only say that Argentine and Uruguayan radio stations are reporting on this even more frequently, saying that Bolivian authorities have urgently requested assistance from the U.S. National Aeronautics and Space Administration in order to determine the nature of that which crashed on a hill in Bolivian territory. Just a few minutes ago Radio El Espectador of Montevideo announced that there was uncertainty as to the truth of these reports.

Argentine sources indicated that the border with Bolivia had been closed but that it might soon be reopened. They also reported that an unidentified object had fallen on Bolivian soil near the Argentine border and that local Bolivian authorities had requested aid from the central government which, in turn, had sought assistance from the U.S. National Aeronautics and Space Administration to investigate the case.

A La Paz newspaper said today that there is great interest in learning about the nature of the fallen object, adding that local authorities for security reasons had cordoned off 200 km around the spot where the object fell. The object is said to be a mechanical device with a diameter of almost (?4 meters) which has already been brought to Tarija. There is interest in determining the accuracy of these reports which have spread quickly throughout the continent, particularly in Bolivia and its neighboring countries. Is it a satellite, a meteorite or a false alarm?

ELECTORAL COURT WILL NOT SUBMIT TO FSB PRESSURES

FY151711Y La Paz PRESENCIA in Spanish 10 May 78 p 11 FY

[Text] Responding to a declaration issued by the national assembly of the Bolivian Socialist Falange [FSB] recently held in Cochabamba, members of the National Electoral Court have stated that "they have always been willing to resign their posts."

They warned, however, that they will definitely not submit to "pressures from political parties" and they added that "they know the path of dignity and will assume their duties at the proper time and that they are above human selfishness."

Approved for Release
Date 25 MAR 1980

Intelligence Information Report

[redacted]

DIRECTORATE OF OPERATIONS

PAGE 1 OF 1

THIS IS AN INFORMATION REPORT, NOT FINALLY EVALUATED INTELLIGENCE

[redacted]

REPORT NO. FIR K-313/03635-77

DATE DISTR. 30 December 1977

COUNTRY USSR

DOI [redacted]

SUBJECT [redacted]

ACQ [redacted]

FIELD NO. [redacted]

SOURCE

[redacted]

REPORT NO. FIR K-311/01635-77

DATE DISTR. 20 December 1977

COUNTRY USSR

DOI [redacted]

SUBJECT [redacted]

ACQ [redacted]

FIELD NO. [redacted]

SOURCE

APPROVED FOR RELEASE
DATE 6 Nov 78

D- #69

[redacted]

[redacted]

10.

11.

12.

13.

14. On one evening in late Summer 1973, Source observed an

unidentified phenomenon at Site 7. While watching a sport competition between Canada and the USSR on television, he stepped outside for some air and observed an unidentified sharp (bright) green circular object or mass in the sky. The object was situated west of the site at an angle of sighting of approximately 70 degrees. The altitude of the object was undeterminable. (Field Comment: Although there were no clouds in the sky that evening, Source believed that the green mass would have been higher than cloud level. Source could not estimate the diameter of the object.) Within 10 to 15 seconds of observation, the green circle widened and within a brief period of time several green concentric circles formed around the mass. Within minutes the coloring disappeared. There was no sound, such as an explosion, associated with the phenomenon. (Field Comment: Source had no opinion as to what this phenomenon was. There was no resultant rumors. Source could not provide any further details.)

15. [redacted]

16. [redacted]

SUBJECT: (Optional)

FROM: DCD/[redacted]

[redacted]

DATE 14 July 1976

TO: (Officer designation, room number, and building)	DATE RECEIVED	DATE FORWARDED	OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
1. Deputy Chief, OD&E Attn: Mr. [redacted]				Mr. [redacted]
2.				At a recent meeting to evaluate sor material from [redacted] you mentioned a personal interest in the UFO phenomena. As you may recall, I mentioned my own interest in the subject as well as the fact that DCD had been receiving UFO related material from many of our S&T sources who are presently conducting related research. These scientists include some who have been associated with the Agency for years and whose credentials remove them from the "nut" variety.
3.				
4.				
5.				
6.				
7.				The attached material came to my attention through these sources and it appears to have some legitimate FI or community interes potential.
8.				
9.				The [redacted] work being carried out by Dr. [redacted] should, in the view of our S&T sources, be evaluated by the Agency or community.
10. [redacted]				
11.				In view of the expertise associate with your office, as well as your interest in the subject, I felt yo might like to see the material.
12. [redacted]				
13.				[If you need additional informatio or if you feel there is some potential, I would be glad to disc this with you. If not, please fee free to destroy the material.]
14.				
15. [redacted]				[redacted]

FORM 610 USE PREVIOUS EDITIONS ☐ SECRET ☒ CONFIDENTIAL ☐ INTERNAL USE ONLY ☐ UNCLASSIFIED

2.

3.

4.

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9.

10. [redacted]

11.

12. [redacted]

13.

14.

15. [redacted]

At a recent meeting to evaluate sor material from [redacted] you mentioned a personal interest in the UFO phenomena. As you may recall, I mentioned my own interest in the subject as well as the fact that DCD had been receiving UFO related material from many of our S&T sources who are presently conducting related research. These scientists include some who have been associated with the Agency for years and whose credentials remove them from the "nut" variety.

The attached material came to my attention through these sources and it appears to have some legitimate FI or community interes potential.

The [redacted] work being carried out by Dr. [redacted] should, in the view of our S&T sources, be evaluated by the Agency or community.

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[redacted]

☐ SECRET ☒ CONFIDENTIAL ☐ INTERNAL USE ONLY ☐ UNCLASSIFIED

APPROVED FOR RELEASE
DATE 17 Mar 78

D-#131

[redacted]

ORIG: [redacted]

EXT: [redacted]

[redacted]
CLASSIFICATION

FILE TIME

PRECEDENCE - ACTION: Routine

PRECEDENCE - INFO

MULTIPLE ADDRESS MESSAGE | BOOK MESSAGE | CHECK NO.(S)

DATE: 25 June 1976 | TIME: 1425 | PAGE 1 OF 1

TO DCD/[redacted] INFO

15678
NUMBER

[redacted]

SUBJECT: CASE [redacted] - UFO RESEARCH/ORD REQUEST FOR ADDITIONAL INFORMATION/[redacted]

REFERENCE: A. [redacted]
B. [redacted]

1. ORD HAS EXHIBITED SOME INTEREST IN THE WORK OF [redacted] A QUALIFIED ANALYST IS CURRENTLY ATTEMPTING TO EVALUATE [redacted] SYSTEM AND HAS REQUESTED ADDITIONAL INFORMATION.

2. WE NOTE THAT IN SOME OF THE EARLIER CORRESPONDENCE FROM YOUR OFFICE (REFERENCE B) MENTION WAS MADE OF THE POSSIBILITY OF OBTAINING A MORE COMPLETE DESCRIPTION OF [redacted] SYSTEM. IF THIS POSSIBILITY STILL EXISTS, ORD WOULD APPRECIATE SEEING WHATEVER IS AVAILABLE.

3. PLEASE KEEP US ADVISED OF ANY NEW DEVELOPMENTS.

[redacted]

AUTHENTICATING OFFICER: [redacted]

COORDINATING OFFICERS: [redacted]
CLASSIFICATION

RELEASING OFFICER: [redacted]

FORM 9-63 172 USE PREVIOUS EDITIONS

Read instructions on reverse side before typing

APPROVED FOR RELEASE

SUBJECT: CASE [redacted] - UFO RESEARCH/ORD REQUEST FOR ADDITIONAL INFORMATION [redacted]

REFERENCE: A. [redacted]
B. [redacted]

1. ORD HAS EXHIBITED SOME INTEREST IN THE WORK OF [redacted] A QUALIFIED ANALYST IS CURRENTLY ATTEMPTING TO EVALUATE [redacted] SYSTEM AND HAS REQUESTED ADDITIONAL INFORMATION.

2. WE NOTE THAT IN SOME OF THE EARLIER CORRESPONDENCE FROM YOUR OFFICE (REFERENCE B) MENTION WAS MADE OF THE POSSIBILITY OF OBTAINING A MORE COMPLETE DESCRIPTION OF [redacted] SYSTEM. IF THIS POSSIBILITY STILL EXISTS, ORD WOULD APPRECIATE SEEING WHATEVER IS AVAILABLE.

3. PLEASE KEEP US ADVISED OF ANY NEW DEVELOPMENTS.

[redacted]

AUTHENTICATING OFFICER	COORDINATING OFFICERS	RELEASING OFFICER
[redacted]	[redacted]	[redacted]
	CLASSIFICATION	

FORM 9-63 172 USE PREVIOUS EDITIONS

Read instructions on reverse side before typing

APPROVED FOR RELEASE
DATE 17 Nov 78

D-#130

[redacted]

MIN-11-78

TO : Chief, Domestic Collection Division

ATTN : [redacted]

DATE: 9 February 1978

FROM : Chief, Minneapolis Office

SUBJECT: Report of UFO at Time of Soviet Satellite Failure

1. At 4:30 on 8 February 1978, [redacted], who works for the [redacted], reported information that might relate to the Soviet satellite that fell in Canada on Tuesday, 24 January. He said that while going to work a week ago Friday, 27 Jan, he was on the bridge in [redacted] going over towards [redacted] and he observed an odd object coming down in the sky. No description was obtained.

2. We said we would pass his information to the Air Force, and if they wanted to contact him for more information we would give the Air Force his name and telephone number.

3. For the record, in the event that anyone is tracking UFO's, we forward the following:

[redacted]

Telephone (home): [redacted]
(work):

[redacted]

[redacted]

APPROVED FOR RELEASE
DATE 16 Nov 78

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

#133

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

[redacted]

MEMO ~~TO~~ FOR THE FILE

On 25 June 1976, [redacted] ~~xxxx~~ met with [redacted] of ORD([redacted]) regarding possible interest by that office in the UFO case. [redacted] was provided copies of the [redacted] and the later [redacted] memo, as ~~a~~ well as the original [redacted]. These items were provided at his request.

[redacted] felt that there may be some ongoing ORD interest, ~~depending~~ depending on the evaluation ~~of~~ by that office of the material provided. [redacted] asked that we ~~attempt to~~ obtain additional info on the [redacted] ~~[illegible]~~ system which we agreed to do. (a TWX was sent ~~to this effect~~ to the [redacted] Office requesting additional info on 25 June 1976).

~~Xxxxxxxxxx~~ [redacted] asked that the ORD interest be kept at a low profile until some evaluation could be made, but at the same time indicated that he would be in touch with me on a fairly ~~[illegible]~~ regular basis.

[redacted]

25 June 1976

[redacted]

[redacted]

[redacted]

[redacted] items were provided at his request.

[redacted] felt that there may be some ongoing ORD interest, ~~depending~~ depending on the evaluation ~~of~~ by that office of the material provided.

[redacted] asked that we ~~attempt to~~ obtain additional info on the [redacted] system which we agreed to do. (a TWX was sent ~~to this effect~~ to the [redacted] Office requesting additional info on 25 June 1976).

~~XXXXXXXXXX~~ [redacted] asked that the ORD interest be kept at a low profile until some evaluation could be made, but at the same time indicated that he would be in touch with me on a fairly ~~frequent~~ regular basis.

[redacted]

25 June 1976

[redacted]

[redacted]

[redacted]

APPROVED FOR RELEASE
DATE 17 Nov 78

D - #129

[redacted]

[redacted]

DIRECTORATE OF OPERATIONS

Domestic Collection Division
Foreign Intelligence Information Report

COUNTRY	USSR	DCD REPORT NO.	DO-E-324/33601-76
SUBJECT	Aerial Observation of Intense Source of Light	DATE DISTR.	18 NOV 1976
		NO. PAGES	1
		REFERENCES	DCD Case [redacted]
			[redacted]

DATE OF INFO. September 1976

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

1. An unusual incident was observed during a 10 September 1976 British European Airways (BEA) flight (number 831) from Moscow to London. Between 1800 and 1900 hours, the aircraft was cruising at an altitude of approximately 33 thousand feet (9,900 meters), apparently inside the border of Lithuania, when a blinding, single source, constant intensity, and stationary light was observed off the starboard flight path of the aircraft. The light's distance was estimated to be approximately 10 to 15 miles (16 to 24 kilometers) off of the aircraft's path and approximately five to six thousand feet (1,500 to 1,800 meters) below the aircraft, somewhat above a lower cloud layer. The light, which resembled a sodium vapor lamp (yellowish in color), and which was too intense to view directly for any period of time, completely lit the top of the lower cloud layer, giving it a glowing cast.

2. The light was of such interest that the BEA pilot came onto the aircraft's intercom network, stated that he was somewhat concerned over its presence, and said he had asked the Soviet authorities for an identification of its source. The Soviet authorities came back with a negative identification response, suggesting that he should not ask questions. The light was observed for approximately 10 to 15 minutes, until the aircraft had flown past and left the light source behind.

- end -

[redacted]

SUBJECT Aerial Observation of Intense Source of Light

DATE DISTR. 18 NOV 1976

NO. PAGES 1

REFERENCES [redacted]

DCD Case [redacted]

DATE OF INFO. September 1976

THIS IS UNEVALUATED INFORMATION

SOURCE [redacted]

1. An unusual incident was observed during a 10 September 1976 British European Airways (BEA) flight (number 831) from Moscow to London. Between 1800 and 1900 hours, the aircraft was cruising at an altitude of approximately 33 thousand feet (9,900 meters), apparently inside the border of Lithuania, when a blinding, single source, constant intensity, and stationary light was observed off the starboard flight path of the aircraft. The light's distance was estimated to be approximately 10 to 15 miles (16 to 24 kilometers) off of the aircraft's path and approximately five to six thousand feet (1,500 to 1,800 meters) below the aircraft, somewhat above a lower cloud layer. The light, which resembled a sodium vapor lamp (yellowish in color), and which was too intense to view directly for any period of time, completely lit the top of the lower cloud layer, giving it a glowing cast.

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- end -

[redacted]

5 4 3 2 1

APPROVED FOR RELEASE
DATE 16 Nov 78

5 4 3 2 1

[redacted]

[redacted]

[redacted]

THE DISSEMINATION AND USE OF THIS FOREIGN INTELLIGENCE INFORMATION IS CONTROLLED BY DCID 1/7.

D- #68

at Sofia Airport the guest was seen off by Comrades Todor Balev and Dimitur Stanishev.

Pan-Turkish Propaganda Denounced

AU1608154789

[Editorial Report] Sofia RABOTNICHESKO DELO in Bulgarian on 14 August 1989 carries on pages 4 and 5, a 2,500-word article by Mikhail Yanchev, entitled: "Pan-Turkism—Imperial Passion of Turkey" dealing with Turkish propaganda related to the identification of Muslims living outside the borders of Turkey as belonging to the Turkish nation.

In an introductory passage, Mikhail Yanchev points out that "Bulgarian literature is full of examples describing the struggle against foreign domination, but it never refers to claims for foreign territories and peoples," which applies in particular, to "our neighbor countries."

The author further enumerates several contemporary Turkish publications, such as newspaper articles, books, and essays of Turkish scholars on the recent past in which pan-Turkism is expressed in many ways, by indicating the existence of "Siberian Turks, Northern Turks, Western Turks," and other Turks living in "America, Argentina, Algeria, Australia, Britain, Egypt, and Yemen as minorities." Yanchev comments as follows on this statement:

"This is how far the Turkish pan-Turkish scholars are going. They do not recognize any borders, or states, and in a quite aggressive manner, they ascribe entire states and nations to the Turkish nation. This, as a matter of fact, is the very basis of pan-Turkism."

Citing Riza Yonder [name as transliterated] writing in the Turkdili magazine, no 191, 1967, about the necessity of teaching the Turkish language to minorities abroad, Yanchev remarks:

"The foreign language imposed on part of our compatriots, namely on the Islamized Bulgarians, was not adopted by them, naturally, and for this reason, Yonder gives instructions on methods to keep up the 'flame' of pan-Turkism outside the Turkish borders, having in mind us, in Bulgaria, of course."

Yanchev further points out: "The fact that the names of the descendants of Islamized Bulgarians were restored was the most severe blow against pan-Turkism, it is no coincidence that in their writings, the propagandists keep mentioning the strength of anadola, and the strength of the "sovereign Turks," the "homecoming" to Turkey is nothing but an expression of the goals and tasks of pan-Turkism.

Yanchev cites some more recent Turkish publications on the subject, including an article published in the daily TURKIYE on 23 July 1989 containing an "appeal" to Prime Minister Ozal to establish "a ministry for Turks abroad" and a "world federation of Turks living abroad," as a well as an institute on the problems of "enslaved Turks living abroad." Yanchev adds in this connection:

"Anyone may ask, where are these Turks living? it is very well known, that the Ottoman decrees of the remote past, according to which they used to invade and destroy entire civilizations all over the world, including Bulgaria, are still valid for them."

Yanchev closes his article by stressing that "an increasing number of people are becoming aware that pan-Turkism is a crime that should be denounced by the entire civilized world." He admits that some "soberly thinking people in Turkey condemn Ozal's chauvinistic policy," and expresses the hope that "Turkey's western allies should understand, or if they do not know it yet, learn, the fact that what is happening in Turkey is in contradiction with present-day realities."

Farmers Burning Straw To Make Up For Delays

AU1608162389 Sofia RABOTNICHESKO DELO in Bulgarian 11 Aug 89 p 2

[Unattributed report: "Warning Tip: Ban on 'Flying Saucers Made of Straw'"]

[Text] It is well-known how the short-lived sensational story ended concerning the unidentified flying object that was recently reported to have landed near Moscow: Unprejudiced investigations produced a perfectly prosaic explanation, namely the combustion of a large amount of dry grass. We would not mention this attempt to make up for the summer shortage of interesting news with a fabricated story, if the danger had not recently arisen of similar "launching areas" also appearing in the fields of Bulgaria.

Delays are occurring in collecting the straw from harvested fields, and because in many areas this has begun to hinder the timely completion of the basic soil cultivation operations, it is no wonder that certain leaderships may be tempted "to put a match to it," without wasting any time in thinking of the existing categorical prohibition on this. It is not superfluous to remind ourselves that though prohibitions may well exist, violations of these prohibition exist as well.

The lowest percentages of straw have been collected in Sofia, Razgrad, Burgas, and Mikhaylovgrad Oblasts (between 36 and 45 percent). Marked differences can be noted in the way the different municipalities are carrying out this agricultural task. Whereas a few days ago Veliko Turnovo Municipality had completed 97 percent of this task, and Lom Municipality had collected the straw from 86 percent of the harvested fields, Mikhaylovgrad Municipality had only completed one-third of the work.

Approved for Release
Date AUG 1991

Of course, objective reasons do exist. Large amounts of straw left over from last year can be seen, and village farmers are refraining from collecting and baling the straw in order to avoid excess expenditures (which are not insignificant). However, the true farmer finds a way out, for example by distributing unlimited amounts of straw to private farmers, or baling it to keep it in reserve for the needs of stockbreeding and vegetable production.

Every solution is good in its own way, but one is absolutely unacceptable, and that is burning!

Without mentioning the danger presented by stubble burning, and without considering in detail the losses, which can very easily multiply (as such matters are clear to everyone), let us remind ourselves of the extremely unfavorable ecological consequences. Many of us, if not all, have seen the black patches caused by the fires, the soil baked hard as brick.... The earth carries such wounds for a long time, and they are not easily cured.

Thus, the "landing" of such "flying saucers" made of straw must continue to be prohibited. If the telltale signs of orange flames should nevertheless appear anywhere, our readers know whom to inform of the violation.

Sociopolitical Committees Formed in Burgas, Varna

AU1608172289 Sofia RABOTNICHESKO DELO in Bulgarian 11 Aug 89 p 6

[Text] Burgas, 10 August (oblast correspondent Tsanko Raychev)—Today representatives of 12 public organizations, movements, and professional and creative unions founded a committee of sociopolitical forces attached to the Burgas Oblast Fatherland Front Council. Nikolay Zhishev, first secretary of the Varna Oblast Committee of the Bulgarian Communist Party [BCP], was elected to serve as chairman for a period of 6 months.

Nacho Papazov, chairman of the BCP Central Control-Auditing Commission, took part in the constituent meeting of the committee. He pointed out that new effective forms must be used to further improve the links with working people, steadily overcome bureaucracy and indifference towards their problems, and mount an offensive to solve the important problems that real life poses.

The committee will introduce new elements in uniting all political and social forces in the oblast. Its efforts will be directed toward the vital interests of the workers: environmental protection, demographic processes, the struggle against negative phenomena, and meeting the consumer demand for goods and food products. X X X

Varna, 10 August (oblast correspondent Nikolay Zhelev)—A committee of sociopolitical forces attached to the Varna Oblast Fatherland Front Council was formed today. This decision was unanimously reached by the leaders of sociopolitical organizations, movements, and professional and creative unions who attended the meeting. Dimitur Dimitrov, first secretary of the Varna Oblast BCP Committee, w chairman of the committee. At the next mee committee he will present for discussion the qualification of the Bulgarian nation. The stat work of the new organ will also be formu committee has been formed in response to th requirements of sociopolitical life, as a new the road toward expanding democracy. Its develop and enrich the socialist values on t pluralism of views and the coalition approac

Amendment to Economic Decree Discuss

AU1608185189 Sofia RABOTNICHESKO D in Bulgarian 12 Aug 89 p 2

[Report on "Amendment to Decree No 56 or Activity," published in issue 62 of DUI VESTNIK]

[Text] Decree No 1,585 of the People's F Bulgaria dated 4 August 1989 on Amendmen No 56 on Economic Activity. According to paragraph of the new decree, in Article 34, [of Decree No 56], which stated that the nominal value of a share is 1,000 leva, "thousand" is replaced by the word "fifty."

The question arises of the considerations th the reduction in the nominal value of a single 1,000 leva to 50 leva. The Decree on Econo provides a possibility for the joint stock comp shares to other legal and physical persons. The of companies with state and municipal proper stock companies will create conditions for thi to be widely applied. The purchase of shares of the labor collectives of joint stock compar great extent mobilize the interests of the partic production processes, as they will be directly the economic results of the joint stock comp ever, in order for shares to be purchased by the labor collectives on a mass scale, it is expec minimum value of the shares to be such as t shares to be acquired by members with lower i clear that the minimum nominal share value that was determined previously did not pro opportunity, and it followed that the valu reduced to 50 leva. At this share value pr member of the labor collective will be abl shares in the company in which he works. The and the employee will manage the compar better and will devote more concern to company's success.

Government Decisions Published in Ga

AU1608202989 Sofia RABOTNICHESKO in Bulgarian 15 Aug 89 p 2

[Text] The following more important acts in Issue 63 of DURZHAVEN VESTNIK:

FBIS
FOREIGN PRESS NOTE

22 November 1989

USSR: MEDIA REPORT MULTITUDE OF UFO SIGHTINGS

Leading Soviet newspapers and journals have recently begun publishing an increasing number of articles and news reports on sightings of unidentified flying objects (UFOs) in various areas of the Soviet Union. A "permanent center" for the study of UFOs has been established in Moscow to conduct research and support the investigation of reported sightings.

* *

Setting the tone for this media coverage was an article in the 9 July 1989 SOTSIALISTICHESKAYA INDUSTRIYA, which referred to many recent reports of UFO sightings in the USSR. Interviewed by the paper, P. Prokopenko, director of a laboratory for the study of "anomalous phenomena," stated that a "permanent center" for the study of UFOs is being established in the Soviet Union. In addition to conducting research and presenting lectures on UFOs, the center will support the investigation of reported sightings.

In referring to an issue of the paper published in July 1988 that included a report on "an amazing event that took place on Hill 611 near the village of Dalnegorsk in Primorskiy Kray," the article noted that the event is still under investigation. Many observers saw a flying sphere crash into one of the hill's twin peaks, and physicists and other scientists from the Siberian Division of the USSR Academy of Sciences are still studying the "fine mesh," "small spherical objects," and "pieces of glass" that are considered to be small remnants left behind by the sphere. According to the article, the alleged spacecraft was nearly obliterated in the crash, but there appears to be enough material at the site for the scientists--a mixture of UFO "enthusiasts" and skeptics--to eventually "penetrate this mystery."

In studying the site, scientist A. Makeyev reported finding gold, silver, nickel, alpha-titanium, molybdenum, and compounds of beryllium. One of the "skeptical" physicists from Tomsk has hypothesized that the so-called sphere could have been some kind of a "plasmoid," formed by the "interaction of geophysical force fields," which captured the elements found by Makeyev from the atmosphere on its trajectory toward disintegration on the hilltop. Other researchers have generally rejected this explanation since the amounts of various types of metals found at the site would imply, according to this "plasmoid" theory, that "the concentration of metals in the atmosphere should exceed the present level by a factor of 4,000."

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Some of the scientists have concluded that the object that crashed into Hill 611 was an "extraterrestrial" space vehicle constructed by highly intelligent beings. Doctor of Chemical Sciences V. Vysotskiy stated that "without doubt, this is evidence of a high technology, and it is not anything of a natural or terrestrial origin." He cited the fact that the remnants of fine mesh included bits of thin threads with a diameter of only 17 microns and that these threads, in turn, were composed of even thinner strands twisted into braids. Extremely thin gold wires were discovered intertwined in the finest threads--evidence of an intricate technology beyond the present capabilities of terrestrial science, according to Vysotskiy.

SOTSIALISTICHESKAYA INDUSTRIYA of 25 July 1989 reported that a UFO sighting had been claimed by engineer Yuriy Ponomarenko and a group of workers at a collective farm in the Dnepropetrovsk region. The object was described as a disk with two beams of light emanating from its sides. The witnesses maintained that they had observed the object on the ground for about 20 minutes, and that it emitted no sound when it flew away.

The August 1989 issue of the Soviet journal NAUKA I ZHIZN included a 9-page article which, after summarizing the history of UFO sightings in general, contrasted some of the views of the "skeptics" with some of the opinions of the "enthusiasts" on the numerous reported UFO sightings in the USSR, including incidents in Serpukhov, Petrozavodsk, and Rudnya. According to the "enthusiasts," UFOs have left evidence of their visits on many occasions, including the Serpukhov incident in which, they claim, a UFO left a circular depression in the grass with a diameter of 4 meters. The skeptics maintain that most of this so-called "evidence" can be explained as having no connection with extraterrestrial intelligence. Many of the sightings could be attributed to rocket testing, for example. Academician Vladimir Vasilyevich Migulin, director of the Terrestrial Magnetism, Ionosphere, and Radio Wave Propagation Institute in Troitsk, which has a section for the investigation of anomalous phenomena in the atmosphere, maintains that over 90 percent of UFO sightings can be nullified by such mundane explanations.

STROITELNAYA GAZETA of 16 September 1989 reported that in August a group of observers including physical scientist Elvir Kurchenko began investigating another circular depressed area in a forest near Surgut after a worker claimed that a UFO had visited the site.

SOTSIALISTICHESKAYA INDUSTRIYA of 30 September 1989 noted that media all over the Soviet Union were receiving reports of UFO sightings on the ground and in the air, adding that the paper's editorial office was reviewing hundreds of reports related to UFO incidents. In response to this deluge of reports, the paper interviewed Anatoliy Listratov, chairman of the section of the All-Union Astronomical and Geodesic Society assigned to the study of anomalous phenomena, who said that although his group is "still wandering around in the darkness," some important developments in the investigations had recently occurred. He stated that "at the sites of the landings...the operating frequency of a crystal-controlled oscillator changes. Simply speaking, electronic timepieces run at rates that are either too fast or too slow."

Listratov noted that Soviet military officers and pilots had recently started providing some documentation on UFO sightings. As an example, he stated that he had documentary information regarding an encounter between Soviet aircraft and a UFO over the city of Borisov. The crews of two

Soviet aircraft reported seeing a large flying disk in their vicinity with five beams of light emanating from it: three beams were directed toward the ground and two were projected upward when the object was first sighted. The ground controller instructed one of the planes to alter its course and approach the object, at which point the disk flew to the same level and aimed one of its beams at the approaching Soviet plane, illuminating the cockpit. Listratov cited the pilot's log as stating: "At this time, the copilot was at the controls. He observed the maneuver that the object had just carried out and was able to raise his hand to shield himself from the unbearable light. The aircraft commander was resting in the adjoining seat, and a bright ray of light, projecting a spot with a diameter of 20 centimeters, passed across his body. Both pilots felt heat."

According to Listratov, the aircraft commander and his copilot both became "invalids" shortly after the incident. The copilot was forced to leave his job due to a sudden deterioration in his health, including the onset of sudden prolonged periods of "loss of consciousness." The aircraft commander died within a few months. The cause of death was listed as "cancer," and "injury to the organism as a result of radiation from an unidentified flying object" was listed as a contributing factor on the official medical record in the hospital where the commander died, according to Listratov.

Listratov told SOTSIALISTICHESKAYA INDUSTRIYA that about 95 percent of UFO sightings could be explained, and investigations have often revealed them to be burned-out rocket stages or the remnants of unsuccessful rocket launches. It is the 5 percent that cannot be explained that is causing all the commotion among Soviet scientists and military personnel. Instead of the widespread skepticism that he had expected when he first began to interview military personnel, he noted that officers and soldiers had told him about their own encounters with UFOs, and they had even shown him reports that had been completely filled out on official forms.

KOMSOMOLSKAYA PRAVDA of 7 October reported that the Soviet Union had just opened an official center for the study of UFOs in Moscow. Physicists, geologists, astronomers, and psychologists are teaching courses on the various characteristics of the UFOs that have been reported and the types of equipment necessary to investigate UFO sightings.

On 9 October the Soviet news agency TASS reported that a UFO had landed in a park in the city of Voronezh. TASS reported that the object had been observed by many witnesses before it left.

KOMSOMOLSKAYA PRAVDA of 12 October reported that a group of scientists had visited a field in Perm Oblast to investigate claims that a UFO had landed in that area and had left behind a circular impression measuring 62 meters in diameter.

KRASNAYA ZVEZDA of 13 October suggested that mass hysteria may be an important factor contributing to the recent outburst of widespread claims of encounters with UFOs in the USSR. According to the paper, many elements of the Soviet media were fanning this phenomenon, which it compared to the hysteria resulting from Orson Welles' radio broadcast in 1938 about an invasion of the United States by extraterrestrials.

The 19-25 October issue of POISK carried an article contrasting the viewpoints of scientists from the two main Soviet institutes presently

engaged in investigating UFO reports--the newly established center for UFO studies in the Palace of Culture of Power Engineers in Moscow and the Terrestrial Magnetism, Ionosphere, and Radio Wave Propagation Institute, which has branches in Troitsk, Leningrad, and Irkutsk. Physicist Yuriy Platov of the Terrestrial Magnetism Institute does not believe the claims of scientists who maintain they have found remnants in Dalnegorsk of a UFO constructed by extraterrestrials, and he is convinced that the materials found at that site are really only the remnants of the unsuccessful launch of a Soviet rocket in that region. He believes that many of the other reports of UFOs can be explained by the inability of the observers to recognize the phenomenon known as "ball lightning."

The POISK article contrasted Platov's view with that of another physical scientist, Vladimir Azhazha, who was recently elected chairman of the new All-Union Commission for the Study of Unidentified Flying Objects of the Union of Scientific and Engineering Societies. Azhazha compared reports of a UFO crash in the USSR with a claim by UFO enthusiasts in the United States that a UFO had crashed in the desert near Roswell, New Mexico, in 1947. He believes there is sufficient evidence to support the claims of UFO crashes in both cases--in Dalnegorsk and in Roswell. In the latter case, he cited the testimony of eyewitnesses who maintained that they had seen the bodies of four extraterrestrials lying near the smashed spacecraft. According to Platov, however, the eyewitnesses in the Roswell case were mistaken. He believes that the object that crashed was a USAF experimental rocket with four Rhesus monkeys aboard and that the accident was the result of an unsuccessful launch attempt at the dawn of the space era.

SOTSIALISTICHESKAYA INDUSTRIYA of 21 October noted that hundreds of residents had reported observing a UFO in Omsk and that many of these eyewitnesses had reported the sighting directly to the paper's office in Omsk. The article included a report by an "authoritative" military officer, Maj V. Loginov, who stated: "I must tell you straight off that radar did not detect this object, and so I am reporting visual observations. The object was passing over at an altitude of several kilometers. The visible shining sphere appeared to be about one and a half times as large as the moon's shape in the night sky. Four projectors--some parallel and some at angles to the Earth--were casting very bright beams. The object was in the field of vision for about 5 minutes...hovering...over the civil airport before descending a little. Then the projectors were turned off and a whirling plume trail instantaneously appeared around this shining sphere. The object began to recede rapidly in a direction from the northwest to the east at the same time that flights were being carried out from a neighboring airport. Pilots were able to observe it visually, but they could not detect it on their radar screens.... Radar signals could not be reflected from it. This object was immediately reported up the chain-of-command, and our colleagues in the Altay Kray, in the area toward which the object flew, reported back to us within 5 minutes that they had it under visual observation. That meant that it had covered a distance of approximately 600 kilometers at a speed of about 7,000 kilometers per hour."

According to Loginov, all observations indicated that the object was a UFO being controlled by some kind of intelligence and that it was not merely some kind of anomalous atmospheric phenomenon.

SOVETSKAYA KULTURA of 28 October reported on the results of a conference in Petrozavodsk of about 100 Soviet scientists representing the "various branches of science and technology." The main topic of discussion was the multitude of claims of recent UFO sightings in the USSR. According to SOVETSKAYA KULTURA, more questions about UFOs were raised at this conference than were answered.

LITERATURNAYA GAZETA of 1 November reported that Voronezh, where some observers had claimed to have witnessed the landing and take-off of a UFO, has become the place for a "pilgrimage" by correspondents seeking sensational news for their newspapers, regardless of the controversial nature of the so-called "weighty evidence" being presented as proof that extraterrestrials had visited Voronezh.

Economic Reform Conference

Abalkin Answers Questions on Economic Conference

LD1711235989

[Editorial Report] Moscow Television Service in Russian at 1903 GMT on 17 November carries a 37-minute recording of a news conference held on 15 November with Leonid Abalkin, deputy chairman of the USSR Council of Ministers, on the conclusion of the scientific and practical conference held in Moscow to discuss Soviet economic reform. Video shows Abalkin on rostrum. An unidentified chairman opens the news conference:

"Esteemed ladies and gentlemen, we have invited you to a meeting in connection with the conclusion of the all-union scientific and practical conference on radical economic reform. This conference opened on Monday and ended today in the Hall of Columns of the House of the Unions." "Today Academician Leonid Ivanovich Abalkin, deputy chairman of the USSR Council of Ministers, will share his impressions on the conference with you."

Urgent measures, Abalkin says, must be taken to implement economic reform, and these measures must be drawn up before the Congress. Taking part in the conference were experts in all fields, to discuss as openly as possible, with all possible opinions represented, a nationwide program to take into account of all shades of opinion. The program must be realistic, comprehensive, and bold. The conference yielded a great deal of material over the 3 days it was held.

The first question is from a TASS correspondent who asks about the basis for the theory of the transitional period.

Abalkin says one main issue is how to move from a nonmarket economy to a market economy, how to create the infrastructure. The program is based upon a critical evaluation of past experience, both in the USSR and abroad; a scientific and theoretical analysis was also made. All this went into the proposals advanced.

A BTA correspondent asks about consensus on the issues discussed and on approaches to republican financial autonomy.

Abalkin says consensus is impossible in such cases: Full agreement would mean stagnation in thinking. All aspects must be weighed and conclusions reached. Agreement on the basic fundamentals was, however, attained: Without reform, we have an impasse. Consensus in the sense of an understanding of the responsibility of the decisions to be made was thus reached. Financial autonomy must be introduced in the republics from 1990, which leaves very little time. Huge price changes are impossible, but we are compelled to take interim measures to compensate until full measures are implemented. The source of republican budgets have been precisely defined, and further measures, amendments can be made in 1991 when other rep move to financial autonomy.

The FINANCIAL TIMES correspondent, speaking English with superimposed Russian translation, asks: question from the FINANCIAL TIMES: Could you as what specific changes must be made in your econo program as a result of the conference? It seemed to that the reaction to your program was pretty di pointing. Do you agree with that assessment?"

Abalkin responds: "The conference yielded no fun mental changes, no rejections of any directions or ste of reform. Conservative moods, however, turned out be stronger than I had assumed before the conferenc started. This perhaps reflects the general changes in social situation in the country, which is today substan tially different from the situation in the summer, summer of this year. This must be taken into accoun this complex development of events: One cannot simp brush it aside, one must be ready for it.

"I cannot as yet fully evaluate what was done in sections—work went on in eight sections, four round tables, and over 200 people spoke—all this must be looked at attentively, some interesting ideas, and amplifications may evidently be found there. And only then will it be possible to evaluate fully the quality of the discussions."

A Portuguese correspondent asks whether public opinion might oppose the changes needed to emerge from impasse. The correspondent also asks what will be the role of the congress.

Abalkin responds that public opinion is vital; attempts have been made to play with public opinion and manipulate it. Public opinion must be mobilized—it is awaiting constructive measures and decisions. The congress will certainly be very turbulent and contradictory. We must learn to listen and heed one another, we must overcome social "deafness."

An Italian correspondent asks in English about opposition in society to private ownership.

Abalkin says the law on ownership, like the law on taxation must be submitted for nationwide discussion. As an economist, Abalkin says that it is very common for terms to be misunderstood, terminology is a source of misunderstanding and therefore of tension. Terms such as private ownership and cooperatives have been interpreted in different ways, giving rise to unnecessary polemic. We must not try to put over new thinking in the old terminology of the 19th Century.

An EL PAIS correspondent, in Russian, asks: "The newspaper EL PAIS, Spain. I should like to learn about ruble convertibility—that is one point; then also about a system of rationing, and third, parallel money—chervonets."

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Abalkin replies: "I believe the opinion is general and consistent that there is a need for a Soviet ruble to be convertible. The only difference is in the professional and the nonprofessional views of how to make the ruble. The difference lies in the fact that the professional assessment—as held by all the great experts, not just in the Soviet Union but in the west, too—is that convertibility cannot be introduced by decree. We cannot just convene a session of the Supreme Soviet and vote to introduce ruble convertibility as of 1 January. In order for this to come about, we must have within the country a developed market economy, a price structure similar to the price structure on the world market. We must have a developed infrastructure with the circulation of domestic securities and at least what we call internal ruble convertibility. We must have well-trained professionals. We must have a whole host of other conditions which cannot be created just by decree or administrative decisions made purely at will. This is the road we must go down. But we must go down it aware of all its complexities. This must be the case at subsequent stages in this movement, as well.

"A system of rationing is, in my opinion, an unacceptable path. We asked the country's leading academics and economists for an analysis of this problem and of the possible economic and social consequences. We had virtually total unanimity from them in their assessment of the inexpediency and of the socioeconomic unjustifiability of such a move. It does not feature in the program of our actions. If we succeed in implementing the steps that have been mapped out in the course of this year and next year, then this issue will have been removed from discussion by the start of the 1990's. If this program is not implemented—if something prevents it from being carried through—and if by the end of 1990...by the start of the 1990's we are unable to stabilize the situation in the country, then a system of rationing will be inevitable, but that will be the end of the reform.

"The question of a parallel currency is a question that is open to discussion. It is open to discussion. There are many plans and proposals on this score, but there has been no decision on this matter. There are pros and cons. It is not clear which outweigh which, or by how much. We need some more time to form a definite opinion, but there is less than a month for this."

An APN correspondent asks about the difficulty of the present state of affairs and whether the population expected to wait.

Abalkin says everyone is waiting for an instant miracle. In the past, he says, it is at times like this that reports of UFO's start circulating. We must convince public opinion, by means of the truth and nothing but the truth. Huge disappointments are inevitable after huge illusions. The unfortunate must be made aware of the state's concern for their well-being. We must not give way to emotions. The individual must be made to feel his own responsibility and the importance of this work. The republics must be given their chance: In 1990 they must be zones of change; they must show that things are changing for the better.

An ABC correspondent, speaking in English with superimposed Russian translation, asks: "President Bush has said that he wants perestroyka to succeed. What steps would you like the United States to take in the economic sphere to help perestroyka succeed?"

Abalkin responds: "We must do most of the work ourselves. I remember what Bush said about Poland and Hungary. He was quite right, I think, when he said, as a wise and realistic politician, that the Poles and Hungarians themselves must bring their country out of economic crisis, just like the Soviet people must do. We must do this ourselves. I am concerned most by what must be done in our country in these matters. As for what can be expected of the United States of America, which might be of assistance, I do not wish to develop this topic, because apart from the most general concepts with which you have all long been familiar—decide the issue of the most-favoured nation system, remove some other restrictions—I shall not be enriching our knowledge with anything."

A (?HARLEMS DAGLAD) correspondent, speaking in Russian, asks: "We did not all manage to follow the debates conducted at the conference. Could you perhaps tell us more specifically which points gave rise to the most negative reaction from the conservatives, and how do you reckon to break this opposition?"

Abalkin answers: "We have a great deal of historical experience on how to break the opposition. [laughter in hall] Therefore, the main task is how to learn to hold a dialogue with the opposition. The best way is to compel the conservatives to do battle with the radicals, while we get on calmly with the job at hand. [laughter] That would be the wisest solution, we have both radicals and conservatives. At the same time, we must take all the valuable and useful and sensible things offered by both of these, and include these in our programme and get on along our own way. As for the aspects which came in for criticism, I would limit myself to just two approaches. Emotions carried over from meetings were present at the conference; and there were also scientific discussions.

"Everything starts at the very beginning: Should state property be left unaltered, or should we start to modernize and renew, make it more flexible and start the process of de-etatization, given labor collectives on this basis the freedom to decide matters independently and to elect their manager. Or should we maintain the system of administration by injunction. Should we move to a market with new laws of regulating it, with flexible and mobile prices. Or should we as before keep prices unambiguously under harsh state control. A quite normal process is under way, not a very pleasant one, but a normal process of counterposing and weighing up and so forth. At the same time—and this is also a very well known thing—the existence of any opposition compels

one to sharpen one's instruments of argument, compels one to weigh up more attentively the possible consequences, which might be overlooked were there no such criticism. Altogether, in the final analysis, if there is no destructive action and no struggle, one can derive useful things from this, if one regards taking account of diverse points of view as a factor making it possible to ensure a more realistic program of action.

"Thank you for the interest you have shown in the work of our conference and in our commission's work. Thank you."

Supreme Soviet Session

Moscow TV Airs 20 Nov Supreme Soviet Proceedings

1600 GMT

LD2011174289

[Editorial Report] Moscow Television Service in Russian at 1600 GMT, on 20 November begins carrying a recorded relay of the 20 November Supreme Soviet morning session in the Kremlin.

The morning session is chaired by Nishanov, who says there is a quorum for the joint session of the Soviet of the Union and Soviet of Nationalities and declares the session open. He states that if the agenda is not completed this week, it is not excluded that the session may have to continue next week. A draft law on the press may find its way into the agenda if documentation is provided in time. Today the general principles of managing the national economy of the republics will be discussed, further aspects may be included in accordance with notes submitted by deputies.

At 1604 GMT, an unidentified Baltic people's deputy asks about a debate on the Draft Law on Financial Autonomy of the Baltic Republics.

At 1606 GMT, an unidentified asks why various aspects of the Baltic republics' autonomous economic management has not be included in the agenda.

At 1607 GMT, Deputy Prunskene asks about the general principles of the draft on the republican economic autonomy.

At 1608 GMT, Bichkauskas protests that one issue, namely republican autonomy, was excluded from the agenda: Nishanov says this is not so, and puts an end to procedural matters.

At 1610 GMT, People's Deputy Nikolskiy of the Commission on Glasnost asks about items on agenda: the Law on the Press is not on agenda.

At 1611 GMT, Obolenskiy asks about a decision on banning demonstrations.

At 1612 GMT, Deputy Vulfson says that on 18 November a demonstration was held in Riga with 500,000 people taking part, at which questions asked about why the issue of a confederation being discussed. The same issue is doubtlessly discussed in the other Baltic republics. It was prom that this matter would be discussed in October at USSR Supreme Soviet. The date for the second must be set.

At 1614 GMT, Belozertsov asks about the free press the Press Law.

At 1616 GMT, Lukyanov says that no emotional must be brought into the Supreme Soviet debate. deputies have already said that there are attempts remove the law on the press from the agenda. As soon comments on the draft have come in, the draft will be on the agenda. As for financial autonomy of the republics, this matter is included on the agenda in fr them. The session is planned to last only 5 days deputies have the right to prolong the session if they in order to include all these issues. If the Law on the and the issue of the Baltic republics is to be included agenda, the deputies must decide this later in the day.

At 1620 GMT, Nishanov calls for the business to start original agenda set in October provided for 1 work. Deputies have in front of them the draft law General Principles of Management of the Economy in Baltic Republics. At this moment a deputy interrupts report by trying to submit a petition to the chair Abalkin takes the floor, and resumes the history of draft law, which was not passed at its first reading. A variant of the law has been drawn up and has submitted for deputies' consideration. Abalkin stresses need for compromise and a rational approach. He dwell on certain aspects only. In accordance numerous requests, certain points on the legal aspects the law have been included in the new variant. There be regional self-financing and financial autonomy in to develop the economy of the Union as a whole. The lays stress on demarcating the competence of the republ and the union. The republics themselves must determ certain aspects of this. The concept of ownership is cruci and regional demarcation has a great bearing on namely demarcation of ownership according to Union republic, region and enterprise. The decision reached the commission was to lay down general principles demarcating ownership. Industries are interpreted as union social distribution of labor, regardless of whether they come under a ministry or not.

1635 GMT

LD2011175789

[Editorial Report] Moscow Television Service in Russian at 1635 GMT, ON 20 November continues recorded relay of the 20 November Supreme Soviet morning session proceedings in the Kremlin.

At 1635 gmt, Abalkin states that with regard to taxation the draft law, Article 6, enumerates the taxable revenues of the republics. The financial basis of local soviets

If these conditions are not fully met and the government at the provincial or higher level deems it necessary to create a township, and have officially approved it, the place can be listed as an urban residential area.

According to a rough estimate based on these criteria, the urban population of China in 1984 and 1985 was 29.8 and 34 percent of the total population respectively. These figures are lower than the respective 31.9 and 36.6 percent figures of the State Statistical Bureau and take into account administrative criteria, demographic criteria, economic criteria, and geographic criteria, thereby better reflecting the real differences between urban and rural areas.

No matter what the criteria are, if they are to be used, it is necessary for us to understand the competing interests of various internal departments of administrative bodies in our government over the issue of the definition of urban and rural land. The strongest opposition to standardizing the criteria by which urban and rural areas are defined are the statistics departments themselves. They are strongly in favor of a definition by administrative units, so that the definition will be consistent with the current system of compiling statistics. The statistics departments feel that the rationality of the criteria themselves is of secondary importance. What is important to them is who will define the criteria and once the criteria are defined, who will be responsible for compiling the statistics. They would find it impossible to assume the heavy burden of compiling statistic on the basis of both administrative regions and standardized classifications. The State Planning Commission also frowned on major changes which would bring difficulties for a comprehensive balance in labor and wages, credit, and taxation. The Tax Bureau collects 7 percent, 5 percent, and 3 percent town-building tax from cities, towns, and villages respectively, and is, therefore, not interested in two different types of statistics on urban population. The Ministry of Finance would like to see more rigorous standards applied to the definition of urban and rural areas because the more than 9,100 townships now enjoying treatment as an urban entity will be a heavy burden. The public security, commercial, education, public health, and grain departments all have different definitions and measures for urban and rural areas, and it would be hard to enforce any arbitrary standardization. Whatever form the new criteria may take does not seem to matter much. Theoreticians try even harder to arrive at standardized criteria and comparability and welcome a standard definition of demarcation. In the face of the many competing interests and desired criteria, the State Council should adopt the following measures in addition to stressing the need to look at this issue from a nationwide perspective: (1) Increase the funds, personnel, and power of the statistical departments so that they can play their role more effectively as economic chiefs of staff. (2) Not change the rules of special departments. (3) Work out carefully and resolutely the criteria that will meet the requirements of economic development so that they will serve as a rational yardstick for economic zones and social zones. This is also an underlying requirement for modernization.

Wang Ruoshui on Truth Criterion, Theory Research

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[Text]

Truth Criterion and Theory Research

The Theory of Scientific Socialism Should Be Developed in Practice

First, I'd like to talk about the issue of truth criterion. Bringing up this issue at the present is of not only domestic but also international significance. Marxism has been tested in practice for over a century since it was introduced. How do we look at it now? In the beginning of the 20th Century, the October revolution won a great victory. In the middle of the 20th Century, the Chinese revolution also won a great victory. These great events brilliantly proved the correctness of Marxism and exerted a far-reaching influence in the world. In the 1950's, the reputation of the imperialist camp was notorious while the influence of the socialist camp was growing among the people of the world who placed hope in the Soviet Union and China. However, in the past 20 years or so, things have changed. First, the Soviet Union had problems. Immediately after that, the socialist camp split. There followed 10 years of turmoil in China. Contrary to what happened on this side, capitalism had over 20 years of a "golden age." What does this explain? I think perhaps during these years Marxist theory has failed to develop along with the development of practice; therefore, it is probably already behind the international reality.

Marxist theory has three parts, and the most detailed one is political economy. "Das Kapital" was in line with the reality at its time. Later in the imperialist period, things were different. In the early 20th Century, Lenin wrote "Imperialism, the Highest Stage of Capitalism" and thereby solved the problems of that period. Now half a century has passed since then, the situation has changed drastically, and many new situations and phenomena have appeared in capitalist development. However, many of our comrades still try to understand capitalism only by reading books. Of course, we need to read Marx's "Das Kapital" and Lenin's "Imperialism, the Highest Stage of Capitalism," but what these books depicted

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were situations in the last century or the early part of this century and many changes have occurred since then. Although essential and basic contradictions remain the same, many situations have indeed changed. Due to many years of isolation (resulting first from an imperialist blockade and then from our own closed-door policy), we did not understand the outside world. Due to the isolation and lack of study, we knew very little about the situations of capitalist countries. Even if we knew a little, we were too afraid to talk about it. Now that our door is open, we find that things are different from books, students have raised many questions, and the theoretical circle also feels the need to think about many issues. We now need a book—not one book but many books—that analyzes, from all angles, new phenomena which have appeared in capitalist countries during the past few decades since the introduction of "Imperialism, the Highest Stage of Capitalism" and gives Marxist answers to new questions and on new situations. Of course, we do not have another Lenin; nor did Chairman Mao write such a book. Then what shall we do? I think, instead of waiting for some talent to show up, we should rely on collective power—the collective power of theoretical workers—to explore and study and gain new knowledge from years of research and discussion, which is also developing Marxist political economy.

Lenin said imperialism was moribund capitalism. He even then predicted that the capitalist system was dying. Of course, several decades could also be considered a dying period in history. It takes not just one or two decades for a system to die; it could take several decades or even a century. This is understandable. But the question is since Lenin's book "Imperialism, the Highest Stage of Capitalism," especially since World War II, the capitalist economy, in general, has had many crises as well as rapid developments, resulting in higher living standards for workers and a so-called "golden age." How come a dying system has a "golden age?" In addition, some new capitalist countries have emerged in some areas and they are developing very rapidly. For instance, Singapore and South Korea are making rapid economic progress. This explains that Chairman Mao's thesis in "The Theory of New Democracy" that there could not be another Kemal is proved incorrect in practice. Then, is it justified to describe the present capitalist world with such adjectives as rapidly declining and moribound? There are two estimates and based on them we can develop two kinds of foreign strategic principles. If we think the capitalist system is dying, we should hurry up and get prepared for the world revolution. Didn't we use to say during the "cultural revolution" that "now is the time for imperialism to head to a complete collapse and for socialism to head to a world-wide victory?" Lin Biao also thought that way. He believed that cities were surrounded by rural areas all over the world and he wanted to overthrow U.S. imperialism, Soviet revisionism, and everything else. He was an extreme "Leftist." Another estimate is that in spite of crises, capitalism still has some life in it. I have been abroad only a few times. Last year I went to the United States and saw there were indeed many contradictions including economic problems, inflation, and an energy crisis, which gave them great headaches, but they are far from dying or rapidly declining. When a system is dying, it should be fairly easy to detect. Even if you are there only for 20 days or a month, you should be able to find traces of decline in social conditions and the psychological conditions of the people. Like Comrade Ba Jin said in his novel "Home:" I am denouncing a dying system; that system is indeed dying for feudal things are withering one after another. Judged from the current situation, the force of life is still growing in the framwork of capitalist production relations. Therefore, I wonder if the life of capitalism is longer than what Lenin predicted or if it was probably too early for Lenin to say that capitalism was at a dying stage. We should be able to study these questions. At that time, it was impossible for Lenin to make accurate predictions on certain things. I think Lenin probably could not imagine or predict the rapid developments in the science, technology, and productive forces of today's capitalist world. Take polarization for instance. Marx said in "Das Kapital" that as capitalism develops, there will be an increasingly large number of poor proletarians on the one side and millionaires on the other. In other words, the entire society will be polarized into the shape of a gourd—big on one end, small on the other, and very skinny in the middle—and the middle class and petty bourgeoisie will be drawn to both ends. What is the current situation of capitalist society? There are large numbers of middle-class people. Under this circumstance, we should forget about books, proceed strictly from reality, and test theory with practice. If a theory contradicts reality, we should revise it. We should never distort facts to accommodate theories by saying that the peoples of capitalist countries are impoverished, that they will rebel any minute, that they are just sitting on a powder magazine that will explode any time, and that they will be doomed as soon as it explodes. Because, it would be unrealistic. American workers strike, too, but they are not opposing the capitalist system. They want higher wages. We visited the United Auto Workers union in Detroit. A union official told us that they were willing to cooperate with capitalists, but capitalists refused to cooperate, so they had to fight. He believed that everything could be solved through legal struggle and he had no intention of overthrowing the capitalist system. We cannot just say you American workers have such a low level of class consciousness, you are corrupted, and etc. I think we should do more than make critical remarks on this issue, for it reflects the objective existence of a situation; whereas the task of Marxism is to recognize facts as they are in an objective manner and to answer such questions through Marxist analysis. We should not be afraid of such things. Now that our foreign relations have been established and more and more people have come in and out of our country, our youth begin to have problems, thinking that capitalism is superior. In the past these young people did not understand and thought capitalism was a complete mess. Now

they understand a little about the surface of capitalism, but not enough, so they think that capitalism is superior and that our socialism, in comparison, has failed.

What is socialism exactly? It was impossible to have a complete theory of socialism during Marx' time because Marx only laid a foundation for scientific socialism. It is impossible to say that the theory of scientific socialism is complete because socialism has not been carried out. How can there be a complete theory on socialism without the practice? We have tested and developed the theory through Soviet and Chinese practice of socialism in the past several decades. Even today, many questions have yet to be resolved, many objective laws are waiting to be studied and experiences reviewed. As the central government pointed out, we should build a socialism to suit China's national conditions and develop productive forces as soon as possible. This includes absorbing the good experiences of other countries.

This involves the question of how to uphold socialism. First, we should understand what is real and what is fake socialism. Only by thoroughly criticizing the fake socialism of the "Gang of Four" can we uphold real socialism. Second, socialism has more than one model. As long as the general principle is the same, socialism could be carried out in a hundred different ways. Before we only knew how to copy the Soviet Union. We did it because the Soviet Union was the only socialist country at the time. Later we criticized the Soviet Union but we were still thinking in the same way. We thought there was only one way to achieve socialism, no alternatives. Only by comparing can one distinguish and recognize. Only after comparing our methods with those of other countries such as Yugoslavia and Romania did we find out that there could be different methods. Therefore, to uphold socialism, we should have a clear understanding of these issues. This also explains that we cannot uphold socialism unless we emancipate our thinking. Upholding socialism does not mean maintaining the status quo and copying everything indiscriminately. We should not copy the 10 years of the "cultural revolution"; nor should we copy the 17 years before the "cultural revolution." Of course, certain things should still be done in accordance with the methods used during that 17 years, but they are not sufficient. We must create new methods to solve new problems. Failing to solve these problems will make upholding socialism impossible. Because of this, we should not advocate emancipating our thinking under the prerequisite of the four upholds. I disagree with this view. We should reverse it—only by persisting in emancipating thinking can we uphold socialism. You say we need to uphold socialism, but what kind of socialism? There is no fixed model for socialism, then what is the method most suited to China's conditions? We should let the public discuss these questions. How can they discuss anything if their thinking is not emancipated? Some erroneous and popular views of the past are mistaken for the only way to socialism. For instance, socialism does not allow recruits so everybody must be assigned under socialism; otherwise, if workers are recruited, it would not be socialism. What is this nonsense? For another instance, the planned economy, which is also waiting to be studied, may be practiced in different ways. Only by so doing can we develop the theory of socialism. How can we develop the theory of socialism if we do not emancipate our thinking? Many practices cannot be continued. Since Stalin's problems cropped up, the Soviet Union realized that they could not succeed by copying all of Stalin' methods and that they had to make some changes. Chairman Mao also realized this fact and tried to create some new methods. As a result, when Chairman Mao criticized dogmatism before the year 1957, he urged us to think before copying the Soviet Union so that we could learn from their positive experiences and draw lessons from their negative ones. The Soviet Union also changed. They attached importance to material incentive or material reward—I cannot find much difference between the meanings of these two phrases after consulting with many dictionaries. The Soviet Union has indeed taken this road. In 1958 we put politics in command. Later we engaged in class struggle, using it to determine everything, as the key link, and to promote production. After all these years, if we look back and use practice to test the several theories which guided us through these years, we would find out—we need not to be evasive—that the 10 years of turmoil has pushed the national economy to the brink of collapse. How can you afford not to review this theory? How can you refuse to recognize such a practice?

Many people at home and abroad say that we have turned into "revisionists" and that our line has changed. It is true that our line has changed. It was the ultra-left guiding ideology that occupied a dominant position during the "cultural revolution." How can we afford not to change it? But, changing the line is not the same as revisionism. In fact, the "revisionist line" is not an appropriate term. Why? Revisionism initially was referred to the theory of Bernstein and his like. It was a theoretical issue. If a theory contradicts the basic tenets of Marxism, it is called revisionism. As for the issue of line, it is either Left or Right opportunist line; there is no revisionist line. The basic tenets of Marxism are universal truth which is a criterion for the whole wide world. "Revising" such a criterion is the same as opposing Marxism and thus should be objected. We cannot say a basic tenet was good yesterday but is no good today because it covers a very long period of time. As for the line itself, it should change as situations change. We had one line for the period of democratic revolution and another for the period of socialist revolution. We even had different lines for different stages of the socialist period. Therefore, the term, the revisionist line, gives people an illusion as if there ought to be a permanent line that will stay the same forever like "doing everything according to existing principles" which was advocated by the "Gang of Four." You have to do everything according to existing principles and lines; otherwise, you are revisionists—this is the exact logic Liang Xiao [2733 2400] used in his article carried by the "GUANGMING RIBAO." It says: After Marx died, Engels waged a

struggle against opportunism according to existing principles; after Engels died, Lenin followed Marx' and Engels' existing principles; later Stalin followed Lenin's existing principles; and Chairman Mao too followed existing principles. As a result, our current principles are still Marx' principles. This is absolutely absurd metaphysics.

All I mean is that socialism still needs to be shaped and there is a vast world where much can be accomplished by our theoretical and other workers in this field. To do so, we must emancipate our thinking. Therefore, I say there is no scientific basis for the argument that Chairman Mao had a complete set of theories on socialist revolution. How can there be a complete theory of socialism before socialist construction is completed? It is of course possible for theory to precede practice, but theory could not be completed before practice is completed. Do we have a complete understanding of capitalism? No, we do not. After "Das Kapital" we had to study "Imperialism, the Highest Stage of Capitalism." After "Imperialism, the Highest Stage of Capitalism" we had to study other aspects of capitalism. When will we be able to complete our understanJing of capitalism? After the death of capitalism. Only then can we study the whole process of birth, development, and death and thereby complete our understanding of capitalism. We cannot even complete our understanding of capitalism not to mention socialism. Therefore, we must emancipate our thinking to develop Marxism. People used to think in the past that theoretical issue was only a leader's responsibility. This idea came from the Soviet Union and Chinese tradition. Each dynasty had a sage such as Yao, Shun, Yu, Tang, Wen, Wu, Zhougong, Confucius, and Mencius. Only their words can be used for criterion or the so-called "Confucian Orthodoxy" and other people's words are worthless. A theory should be developed by the collective including the masses of people and theoretical workers, and everybody can make a contribution and help develop it. We are all fools, but even a fool can occasionally hit on a good idea. By adding such ideas together, we would be able to improve our theory. For many years we were not used to thinking for ourselves; we used to wait for the central government and Chairman Mao to say something and then we would do whatever Chairman Mao told us to do. Now we cannot rely on them anymore. We need to study many teachings of Chairman Mao, but there are no ready-made answers to many new questions. This forces us to think for ourselves, thus bringing life and hope back to our theoretical work. There still may be great development in China's theoretical undertaking.

Marxism and Mao Zedong Thought Permit Inquiries and Criticisms

I'd like to address another issue: how to treat Marxism and Mao Zedong Thought. When we bring up the issue of the four upholds, we should not set it against the liberation of our thinking because we need to emancipate our thinking to uphold Marxism and Mao Zedong Thought; otherwise, we cannot uphold Marxism and Mao Zedong Thought.

I think that after years of practice, Chairman Mao's 1957 speech on correctly handling contradictions among the people has been proved basically correct. Restoring some of the themes in this speech which have been forgotten and abandoned is exactly what we need to do now. For instance, the phrase that the class struggle has been basically completed is a long-forgotten sentence and we have started to mention it again. There are also some problems. During the same socialist period, first he said that the class struggle was basically completed and later he said that it should be discussed yearly, monthly, and daily. These two sentences contradict. If one of them is the truth, the other would not be. So it is impossible for every sentence to be the truth; neither is it possible for us to follow every instruction. Since the tenets of a complete system usually are consistent, the inconsistency of its tenets explains that our understanding of socialist construction and revolution has not been completed. Chairman Mao urged us in 1962 to understand the realm of necessity—the socialist construction of China and we have not been able to accomplish it. When did we complete our understanding of democratic revolution? As far as the theoretical system was concerned, we did not set forth the general line for the new democratic revolution—namely, a revolution led by the proletariat and the masses of people to oppose imperialism, feudalism, and bureaucratic capitalism—until 1948 right before the victory of the democratic revolution. Later in the article "On the People's Democratic Dictatorship," he was still reviewing this experience, but by that time the theory was complete because the practice of democratic revolution was completed and the theory was tested to be correct. Now we have this problem: Some instructions contradict others and we cannot follow every one of them. What do we do? There is only one thing we can do—we resolutely follow those instructions which have been proved correct in practice in accordance with the criterion of practice. So, quoting a sentence from Chairman Mao's 1957 speech—the large-scale, violent mass class struggle has been basically completed—at the 3rd Plenary Session of the 11th Party Central Committee does not mean that we stick to each and every instruction. Instead, it means that this instruction has been proved correct after over 20 years of practice. Why did we not quote other words? We did not quote other words because they have not been tested in practice. These questions not only concern our attitude toward our leaders and political stand but also concern the success and failure and the life and death of socialism in our country. Some people still cannot get over the lingering fear. They say, you are probably right now, but what happens if there is another "cultural revolution." I say, if there is another "cultural revolution," whether or not you will be criticized would not constitute an issue because the issue would be whether or not the nation and the party will survive.

That Marxism permits criticism was originally an idea advanced by Chairman Mao in his 1957 report on contradictions among the people. Chairman Mao said: Marxism has been considered as a guiding ideology in our country, then can we criticize it? Of course. Marxism would be useless if it were afraid to be criticized. Instead of being afraid of criticism, Marxism invites it in order to develop during the struggle. In fact, the petty bourgeoisie, bourgeoisie, and other people are criticizing Marxism every day, aren't they? They criticize it every day. Some are fair criticisms and others are not. Can you stop them from criticizing? No, it is impossible.

We have to distinguish between opposing socialism and opposing Marxism and between doubting socialism and opposing socialism in action. In China, socialism is our basic system and the overwhelming majority of people support it. So you cannot oppose it. Nowadays, some young people are confused. They doubt socialism and do not understand what socialism is. They thought the iron rice bowl and eating from the same big pot 12 months a year means socialism. What does that have anything to do with socialism? They do not know and we cannot blame them. We should blame ourselves, for we did not do a good job. If you oppose socialism in action, like instigating a group of people, founding some kind of an organization, or calling on the people to overthrow socialism, then, sorry, you would be violating the criminal law. It is of course allowed to have some doubts about socialism. It is also allowed to have some doubts about Marxism. Why can't we have doubts about it since Chairman Mao said it was Okay to criticize it? We should distinguish between party and non-party members. If a party member says I don't believe in Marxism or Mao Zedong Thought at all, we should ask: Why did you join the party? It is not strange for the masses outside the party to have different kinds of thinking. We should use a proletarian world outlook to educate and reform them, which is a long-term task. All non-proletarian thinkings including the anti-Marxist thinking will exist for a long time to come. We should educate or criticize people with such thoughts but we cannot prohibit such thoughts, according to Chairman Mao. What can we do about the anti-Marxist thinking? If our enemies have such thoughts, it will be easy—just forbid their talking. What happens if it is one of our people? We can only let him talk first and then educate and criticize him by reasoning with and talking to him.

Therefore, first, we should not be afraid of criticism; second, we cannot possibly stop them from criticizing; and third we should permit criticism. Is criticism good or bad to Marxism? It is good. Many people are scared to death as if allowing criticism could damage our stand and Mao Zedong Thought. I say Chairman Mao himself thought differently. He said: Marxism develops during the process of a struggle and it stops when people stop criticizing. To prevent Marxism from turning into dogmatism, an important measure is to allow a hundred schools to contend.

I can tell you something else. In April 1957, I met Chairman Mao and heard him say face to face that Marxism, including the basic tenets of Marxism, permits criticism. He said it did not sound good to say it is Okay to criticize the individual theories of Marxism but not the basic tenets of Marxism. So, when he wrote his speech, he just said in a general term that Marxism can be criticized.

But, we did not follow his instruction. Later at a propaganda work conference, someone said that a hundred schools referred to only two schools—capitalist and proletarian, thus confusing the issue of allowing a hundred schools to contend. All thinkings were categorized into either bourgeois or proletarian. In other words, if you were not bourgeois, you must be proletarian. What belonged to the bourgeoisie? Everything that was wrong, as if the proletarian ideology was so pure that it could not have any mistake at all whereas the bourgeoisie had all the mistakes. As a result, every ideology was labeled. This practice may be traced further back to "The Theory of Practice" where there was a sentence saying that all ideologies were stamped with the brand of a class. Of course many ideologies were stamped with the brand of a class, but does every ideology have a class nature? Later during the "Great Cultural Revolution," this sentence became the basis for the theory of blood relationship. You were branded with a class as soon as you were born. The brands of certain classes were especially deep, such as the "son of a bitch" class and the four black categories. The several red categories were also branded with a class which was born red. These brands of classes could never be erased. Can we categorize all ideologies into either bourgeois or proletarian? Many ideologies have a class nature but many don't. What kind of a class nature does the thinking of natural science such as Einstein's theory of relativity have? What class does social science such as Morgan's ancient sociology belong to? Another question is: Are there only two classes? Can landlords be considered a class? Can farmers and small producers be considered a class? How about the petty bourgeoisie in urban areas? How come we only singled out the bourgeoisie? Since only two classes were noticed, someone later put forward the slogan of eliminating bourgeois ideology and fostering proletarian ideology as if on the ideological front all we had to fight was only one bourgeois ideology. When did we criticize the influence of feudalism and petty production over all these years? Never. In fact, we saw that feudal influence was much greater and worse than bourgeois influence. What we did was let slip by the thinkings of the landlord class and feudalism. As a result, feudal thinking emerged during the criticism of the bourgeoisie. For instance, during the "Great Cultural Revolution," women were not allowed to wear skirts or braids. I also saw a big-character poster opposing men and women swimming together and saying that women's swimsuits looked ridiculous in the pool. I think in the past 20 years we have failed to raise anti-feudalism to a proper level on our ideological front. The fact that the government work report at this people's congress mentioned the issue of anti-feudalism indicates

great progress. As I mentioned before, someone at a propaganda work conference said that a hundred schools referred to only two schools, which was however changed in the "May 16 Circular." Originally we were told that various erroneous thinkings among the people should be criticized and corrected through persuasion and reasoning, not by coercion. Problems in the ideological sphere cannot be solved by holding one or two meetings; they should be solved by presenting the facts and reasoning things out. Later, the "May 16 Circular" criticized the view that everybody is equal before the truth. In other words, the bourgeoisie could not enjoy equality and they had to be suppressed. It demanded that the proletariat exercise dictatorship over the bourgeoisie in the sphere of superstructure including the ideological sphere. Such a dictatorship made it impossible for a hundred schools to contend. Therefore, a hundred schools contending became two schools contending, which later became one school singing solo. What was the last school? Was it Marxism? No, it was the school of Lin Biao and the "Gang of Four."

The movement of combating and preventing revisionism originally was to oppose changing the basic tenets of Marxism. Later, it turned into a movement to establish absolute authority for a leader and ensuring that China will never change its political color also became a means to establish a leader's absolute authority. Every word this authority said was absolutely correct and did not need to be tested through practice. Whoever criticized or violated some of his words before or after he died would be likened to Khruschev, accused of opposing Mao Zedong Thought, and considered a bad guy to be punished by the whole party and nation. As a result, in the process of combating and preventing revisionism, a personality cult gained ground. In 1956, we drew lessons from Soviet experiences and wrote an article, "On the Historical Experience of Proletarian Dictatorship," to criticize Stalin's personality cult, which was the right thing to do. In the report to the Eighth National People's Congress on the amendment of the Party Constitution, Comrade Deng Xiaoping said there was a reflection of a personality cult inside our party. Later, this view was changed. On the issue of Stalin, the second criticism of the "Nine Criticisms," which was adapted from the speech of a certain "adviser," never even mentioned the mistakes of his personality cult. Instead, it said criticizing personality cult was completely wrong for it violated Lenin's theories on the masses, class, political parties, and leaders, thus paving the way for the development of a personality cult and resulting in serious and disastrous consequences. These views all violated the criterion of truth. Lenin's teachings on the masses, class, political parties, and leaders is that the masses are of different classes, the party represents classes, and leaders represent the party. It is true that leaders represent the party, classes, and the masses, but we cannot say that everything a leader does must represent the masses, that believing in leaders means believing in the masses, and that the personality cult does not exist. Leaders can also depart from the people; therefore, not every word and deed of leaders absolutely, undoubtedly conform to the people's interests. Leaders sometimes can make mistakes. Chairman Mao himself once said: "No party or person can avoid making mistakes." Lin Biao advocated that "everything Chairman Mao said is the truth." I'd like to ask him: Isn't this remark of Chairman Mao also the truth? Chairman Mao said no one, including himself of course, can avoid committing mistakes. This remark must also be the truth if whatever Chairman Mao said is the truth as Lin Biao advocated. However, if this remark is the truth, "whatever he said is the truth" would become impossible. Due to many years of propaganda, this view has been ingrained; therefore, trying to set things right, solving these problems, and emancipating our thinking has become a very arduous task. This requires a certain process. Of course, we should also realize and notice that some people oppose our efforts to set things right because they are on the side of the "Gang of Four." But a large number of masses have no bad intention. They are against the "Gang of Four," but since they have had too much of this propaganda and have not paid much attention to their political study, they resent what we are trying to do now. Our RENMIN RIBAO has received many letters, especially from PLA soldiers, protesting: Don't attack people here and there by innuendo and stop doing such things. These comrades are good comrades. They do not necessarily think that Chairman Mao had made no mistakes. It is just that they can not accept this psychologically. We need to carry out propaganda steadily. Propaganda needs discipline, but what kind? It is very hard to say. It is a process. We cannot say certain things during a certain period; but after a while, it will be all right. Maybe we cannot say this today, but we will be able to say it after a certain period. Therefore, we need to advance steadily and help some people by working with them to change their thinking, but never hurt their feelings.

We should advance steadily not only in propaganda but also in all fields including democratic and reform issues. Old bad practices die hard. We now have so many problems which are forming not a pile but a mountain. So, when we sort out these problems, we can only work at a steady pace. We should not vacillate. Vacillation is no good. Don't vacillate, advance steadily. This is why we cannot discuss certain things now but we will be able to after a while. Take the issue of sham leftist and real rightist, for example. Some people say that this still has not been corrected, and I agree. When an article on this issue was first published, it was risky to talk about an issue which was considered a forbidden zone. Chairman Mao said himself that Lin Biao was an extreme rightist. The only way to indicate sham leftist, real rightist was by placing quotation marks around the word "leftist." You now say he was an extreme leftist, so now an unquoted leftist has come to mean sham, and a quoted "leftist" means real. Later after the situation developed, it was all right to talk about the extreme leftist line. Therefore, things are developing and ideological liberation requires a process. Eliminating the forbidden zone also requires a process. For instance, the Liu Shaoqi forbidden zone has

so be eliminated sooner or later and it will involve even more areas. Many people have already had too much of this. They say: We redress mishandled cases everyday. Why are there so many cases to be redressed? A large part of the masses think the same way. What do you thik about their thinking? In a certain sense, their thinking is still under the pernicious influence of the ultra-leftist thinking of the "Gang of Four." In another sense, their thinking is lagging behind the situation. The situation has developed and the focus has been shifted, but they still stay in the past talking about things like taking the class struggle or this and that as the key link. So based on this point, their thinking is conservative. There are actually two common definitions for "leftists" and rightists as Chairman Mao pointed out. One definition is: One who emphasizes struggle, excessive struggle, is a leftist; one who lacks the spirit of struggle is a rightist. Another definition is: One who does things which should be done in the future, going too far, is called a "leftist", one who refuses to do things which should have been done and stays in the past is called a "rightist." Although practice has changed, many people with ossified thinking have failed to change their thinking along with the change of practice, so in this sense they are considered as conservatives who have fallen behind.

The Issue of Socialist Democracy Should Be Resolved

Many socialist countries have not yet resolved this issue. Failure to resolve this issue has caused many problems for the Soviet Union. What about us? We have not resolved it either. We always thought democracy was an issue of work style. For many years we advertised: Democracy is to let the people speak, refrain from bludgeoning and putting labels on people, and heed the opinions of the masses. We thought this was what democracy was all about. It is of course democracy but the major meaning of democracy should not be limited to this area. This formulation is to urge leaders to heed the opinions of the masses, let the people speak, and allow them to express their opinions. According to this formulation which is based on the viewpoint of the leaders', democracy is possible even in a feudal society. Due to the deep influence of feudal ideology, our discussion of democracy has been limited to how leaders should understand the people. An upright feudal official and a good emperor could be democratic if they accepted others' advice. Of course we hope that leaders are like this, but the question is what do we do if they aren't. Nothing. Now we have to correct this misunderstanding. First, democracy is the system of a country under which the people have the right not only to criticize but also to supervise, vote, recall, and etc. I attended the people's congress and felt that some progress has been made. At the congress, representatives criticized state leaders by name and those criticisms were sharp and unprecedented. Many representatives responded to the issue of personal privileges, which is a good phenomenon. However, all this is just preliminary. The important question is the principle of the Paris Commune. Before when we discussed the principle and experience of the Paris Commune, people like Yao Wenyuan and Chen Boda always wrote articles to blame the failure on the lack of suppression on the enemy. Today when we discuss the principle of the Paris Commune, we concentrate on how to prevent leaders from changing from the people's public servants into the people's masters. The Paris Commune had two methods: one is general election and the other, the low-wage system. The low-wage system, under which leaders are paid the same amount of wage as workers, is not feasible today, but at least personal privileges should be eliminated.

We cannot expect "upright officials" to do all this for us. We have to rely on ourselves and fight. Whether it is economic reform, political democracy, or ideological liberation, there is always a fight and many things demand of us to get up and fight. This is a very important experience and lesson. If there were more comrades like Zhang Zhixin [1728 [807 2450] in the past, many things would not have been in such a mess. Zhang Zhixin was a hero of the socialist period and we need such an example. In the old days, things were simple. Whoever opposed the Kuomintang became a here, of course, and whoever got shot became a martyr who will be remembered by the people. Under the new conditions, whoever has differing views becomes a revisionist who will go down in history as a byword of infamy and whoever opposes Mao Zedong Thought becomes a disgraced element of the three evils who cannot even gain the understanding of the people. It is not very easy to take this kind of mental pressure. None of us is mentally prepared for such a struggle in the socialist period. In the past, when we fought the Kuomintang and Japanese, we could easily tell right from wrong and we felt superior to our enemies if we died and became heroes. However, in the socialsit period, since the party and leaders have high prestige, we always feel like we are wrong, wondering if we lack ideological consciousness, if we are wrong after all, and if we will go down in history labelled as a byword of infamy and humiliation. This indeed poses a mental pressure. So I said Comrade Zhang Zhixin was wonderful. She noticed the problems very early. She was also alone because at the time everybody else, not knowing the problems, was still talking about the "three bests" and the "red sun." Comrade Zhang Zhixin's criticism on Chairman Mao came from love and respect not vicious attacks. I heard that comrades of Liaoning Province decided to rehabilitate Comrade Zhang Zhixin after they read the documents of the ideological work conference and found that there were criticisms on Chairman Mao because Comrade Zhang Zhixin's criticism was not as serious as those at the ideological work conference. She was great because she was alone and many good comrades and people around her did not understand and opposed her. It was not easy for her to persist under such a circumstance. Zhang Zhixin was the vanguard of ideological liberation.

Ideological liberation is to free us from various kinds of ideologies such as idealism, old dogmatism, superstitions, and prejudice that prevent us from understanding

the truth so that we can seek and understand the truth freely and independently. The purpose of ideological liberation is to understand the truth and the criterion of truth is practice. As long as we recognize this rule, we would not have to worry about the problem of overdoing in ideological liberation. Today, we still need to liberate our thinking.

Some comrades asked me how to explain democracy as a means. If democracy is a means, so is dictatorship. We have no reason to belittle the importance of democracy just because we think it as a means. Is dictatorship a means? Yes, it is also a means. As Marx said, dictatorship is a medium to ultimately eliminate classes. If we can stress the means of dictatorship, why can't we stress the means of democracy? This is the first question. The second question is that a means and an end are relative and can be transformed. For instance, when we were opposing the Kuomintang, we fought for democracy which was our end; after we won democracy, we used it to build socialism and democracy became a means. At the present, democracy, I think, is both a means and an end because we still need to develop socialist democracy so we can use it to arouse the people's enthusiasm for the cause of the four modernizations.

On the Issue of Chairman Mao's Philosophical Thinking

How do we look at Chairman Mao's philosophical thinking? What are his contributions and shortcomings? I can only talk about it briefly because I am not prepared and don't have any reference materials. I can only say a few things based on my memory.

While discussing these issues, including Chairman Mao's theories on epistemology and contradictions, we should go far back to the philosophical difference between Chairman Mao and Stalin. Lenin wrote "Materialism and Empirio-Criticism" which was the first Marxist classic to discuss mainly epistemology. No book was devoted to the discussion of epistemology before then. However, this book is to resolve the issue of materialism and criticize idealism. It also talks about the dialectics of epistemology, but not much. It mainly answers questions such as what is primary and what is secondary. Later he began to write "Notes on Philosophy" and learned Hegel's science of logic. He finished writing outlines and introduced many thinkings. It looked like he was ready to write another book on philosophy, but he did not have enough time to do so. In his "Notes on Philosophy," Lenin had two ideas: one is to summarize the gist of dialectics into the unity of opposites, thus getting to the heart of the issue, which however should be explained and expanded on; the other is to apply dialectics to the theory of reflection. In addition, he also said that the road to knowledge is from vivid perception to abstract thinking and then from thinking to practice. For a long time in the Soviet Union, Ideas like this failed to attract Stalin's attention. Since Stalin looked down on Hegel and dialectics, for a long time the Soviet Union attached much importance to "Materialism and Empirio-Criticism" but did not give due attention to "Notes on Philosophy." Under Soviet influence, China also attached importance to "Materialism and Empirio-Criticism" and ignored "Notes on Philosophy." "Notes on Philosophy" is only notes not a book but it contains the embryos of many valuable ideas. However, Chairman Mao inherited and developed these ideas first by expanding on Lenin's remark on the unity of the opposites into an article, entitled "The Theory of Contradictions" and, second, by expanding Lenin's idea on the process of cognition into an article, entitled "The Theory of Practice." Chairman Mao's articles were written in 1937, and "The Short History of the Communist Party of the Soviet Union" was published in 1938. Stalin wrote one of the chapters, entitled "Dialectical and Historical Materialism" which exerted great influence and played a great part. This article expounds on the general guidelines of the tenets of Marxist philosophy in simple and clear language and carries a certain amount of weight. However, it also has several mistakes which I will not discuss at length today. One of the mistakes is, as everybody knows, that when he discussed the four characteristics of dialectics, he only mentioned that the struggle of opposites in contradictions pushes things to move forward. Lenin's original remarks were two sentences: one was "development is the identity of opposites" and the other was "development is the struggle of opposites." Stalin used only the second sentence and dropped the first one. Another thing about his article is that it did not give enough coverage to the issue of epistemology. As if epistemology is merely an issue of the knowability and unknowability of the world, he said that the materialism thinks the world is knowable and idealism thinks the world is unknowable. And that is all he said about the issue of epistemology. Earlier in 1937, Chairman Mao already elaborated on this issue; so it is in these areas that Chairman Mao inherited and developed Lenin's thinking and these are also Chairman Mao's contributions.

Lenin's original remarks on the process from vivid perception to abstract thinking and then from abstract thinking to practice later aroused some questions. For example, how many stages are there in the process of cognition? One group says there are two: one is perceptual and the other, rational. They say according to "The Theory of Practice," knowledge is perceptual in the lower stage and rational in the higher stage; so there are two stages. Another group says there are three stages, contending that rational knowledge is not the end of the process and that there should be another stage for the testing of practice, which is also what Chairman Mao said. Rational knowledge, which is only the half point in the process of cognition, needs to go back to the stage of practice. This is the continuous development of knowledge.

What is our answer to this question? Chairman Mao elaborated on this issue in his work "Where Does Man's Correct Thinking Come From" where he said that one

stage is from practice to knowledge and another stage is from knowledge to practice. In this sense, the process of cognition has two stages—one from the beginning of practice to knowledge and the other, the return of knowledge to practice. This is the development of Lenin's idea because according to Lenin the process consists of vivid perception, abstract thinking, and practice in that order. Since this puts practice at the end of the process of cognition, practice only plays the role of testing. In fact, practice is the foundation of the whole process of cognition; it is not only the beginning but also the end of the process. This shows the shortcoming of Lenin's formulation. In addition, since the process begins with perception, this theory is also acceptable to idealism. Lenin said that proceeding from perception, one may take the road of subjectivism leading to idealism or materialism. Therefore, we should say that the process begins from practice and that there are two stages between practice and knowledge: one is perceptual and the other, rational knowledge. This is my view. Knowledge should of course return to practice to be tested, but there are only two forms of knowledge: perceptual and rational. Are there any other forms? I say no. How can knowledge return to practice to be tested? It is simple. First we gain perceptual knowledge in practice and then elevate it to rational knowledge. Practice itself does not equal knowledge. For instance, the 10-year "Great Cultural Revolution" was a test for our basic line, or the theory of continuous revolution, and the theory of sharpening the class struggle. This 10-year period was used to test this theory. How? Like I said before, first we discovered through perceptual knowledge many wronged cases, economic problems, and lower living standards and then we elevated and combined many different kinds of perceptual knowledge, turned them into rational knowledge, and then concluded that the theory of sharpening the class struggle is wrong. When we review our experiences, we also use practice as the criterion for judgement which is formulated on the basis of perceptual and rational knowledge; therefore, as far as the form of knowledge is concerned, there are only two stages. In sum, we should affirm Chairman Mao's philosophical development and achievements. It is not right to ignore "The Theory of Practice" and stress only "Materialism and Empirio-Criticism."

Then, is Chairman Mao's philosophical thinking perfect? Of course not. For instance, I think "The Theory of Practice" also has insufficient areas or shortcomings. Here I will discuss only one question: what is perceptual and rational knowledge? According to "The Theory of Practice," perceptual knowledge reflects the appearance of things and is a stage of sense perceptions and impressions; after this stage repeats for several times, a sudden change will take place and form conception, judgement, inference, or rational knowledge, which reflects the essence of things. So perceptual knowledge is different from rational knowledge. One difference is that rational knowledge is conception and judgement while perceptual knowledge is impression and sense perception. Another difference is that perceptual knowledge reflects appearance while rational knowledge reflects essence. This formulation is questionable. Does it mean that there is no concept or judgement in the stage of perceptual knowledge? Let me give you an example. I say this cup is white. Is this perceptual or rational knowledge? By saying that this cup is white, I reflected the appearance. But didn't I reflect any concept or judgement? The cup is a concept and so is the color white. That the cup is white is a judgement but this judgement does not reflect the essence of the cup. So I think there is conception and judgement in the stage of perceptual knowledge and we don't automatically understand the essence of things as soon as we gain concepts. Let's look at one of Chairman Mao's own example: The first part of the Chinese people's struggle against imperialism was the stage of perceptual knowledge and so was the long-term spontaneous struggle of the working class against capitalism. Were there any concept or judgement during that stage? Of course there were, but those concepts and judgements only reflected the appearance of things. We often use concepts and judgements in our daily life, but many of such concepts and judgements reflect only the appearance not the essence of things. So we cannot say that the formation of a concept automatically leads to the essence of things. Not necessarily. The difference between a concept and a sense perception is that the former masters the common characteristics and appearances of things and summarizes the common characteristics of things. Of course, essence can be reflected only by concepts, but this does not mean that all concepts reflect the essence of things. We now have many concepts. For instance, the concept of capitalism existed before Marxism, but then it did not reflect the essence of capitalism. The concept of the noun commodity existed long time ago, but it took economists several thousand years to study, from classical economics to Marx, before they finally understood the essence of commodity. Therefore, after a concept is formed, we usually have to go through a fairly long development stage before we can master the essence of things. For another instance, since the 1940's, there have been people reporting that they saw flying objects which did not look like airplanes or anything else. More and more people saw them but nobody knew what they were. So after failing to find their name after much research, we named them "flying saucers" which foreigners called "UFO—namely unidentified flying objects. Is this a concept? "Flying saucers"—unidentified flying objects—is a concept. But what exactly is this unidentified flying object or "flying saucer?" Is it sent by the people of another planet or an illusion? We don't know. We need to conduct research and prolonged studies and collect data before we can finally judge what exactly is a "flying saucer" and understand its essence. For still another instance, when did we learn the essence of men? Marx did. He said men's essence is the combination of social relations, so he grasped the essence of men. But, didn't the concept of men exist before then? Aristotle said men are rational animals and others said men are ...there were many concepts. Franklin said men are tool-making animals, which was affirmed by Marx. Therefore, the process of learning the essence of things is

much more difficult than that described in "The Theory of Practice." We don't understand the essence of things as soon as we obtain rational knowledge by eliminating the true and retaining the true in perceptual knowledge. Chairman Mao said after "The Theory of Practice" that some knowledge is incomplete and its onesidedness can be corrected through the test of practice; some knowledge is erroneous and its mistakes can be corrected through the test of practice. When he said correcting mistakes, he referred to mistakes in rational knowledge. It is thus clear that rational knowledge does not necessarily reflects the essence of things and that it needs to be tested in practice. Therefore, it is wrong to say that once a concept is formed, the essence of things will be reflected.

12302

Fudan Graduate Seminar Discusses Crisis of Marxism

40050341b Shanghai WEN HUI BAO in Chinese 7 Jun 88 p 4

[By Li Ling 2621 7227]

[Text] The Question of Crisis in Marxist Philosophy

Fudan University's first-term graduate students specializing in philosophy discussed Marxist philosophy in a recent seminar. Most of them agreed that in the development of theories in China, a so-called crisis actually exists in Marxist philosophy. As to the cause of this crisis and the way to overcome it, however, the participants had many different opinions.

1. Some were of the opinion that the so-called crisis in Marxist philosophy of the present age is caused by the current publication of textbooks on this subject. The system of Marxist philosophy according to these textbooks is mostly based on the old 18th-century materialism. The same traditional theory of knowledge is still used to explain some basic categories of Marxist philosophy, and the system used is based on a Soviet model of the 1930's. Therefore, the use of these textbooks in education obstructs further explorations in Marxist philosophy, and causes a stagnation in the study of Marxism. The only way to overcome this crisis is to get completely out of the entanglement with old materialism, and to search for a new starting point. In other words, we must study Marxism afresh in order to understand Marx and his philosophy.

2. The so-called crisis in Marxist philosophy of the present age can also be attributed to this cause: Marxism no longer enjoys its supreme position as a system of values and faith in people's minds. To overcome this crisis, we should combine our national cultural tradition with the latest ideological trend of Western philosophy and set up a new system of values and faith that is needed by Chinese people in order to eliminate the sense of an impending crisis.

3. After the beginning of the reform and the adoption of an open policy in China, people are more concerned with the economic activities which have a direct bearing on social development, and have the feeling that philosophy is too abstract and far removed from the realities of daily life. That is why philosophy has been neglected. To overcome this situation, we should liberate philosophy from the confines of its abstract form and take the road of philosophical application (such as application of the philosophy of management, philosophy of technology, and so forth), so that philosophy will be more closely related to the realities of social life. Philosophy will then be able to find its proper place in the present society.

4. The so-called crisis in Marxist is essentially a type of political crisis, or a conflict between the realities of social conditions and the old ideology. We must overcome this political crisis before we can remove the sense of crisis in philosophy from people's minds.

9411

More Security for Political Theorists Urged

40050342 Shanghai JIEFANG RIBAO in Chinese 8 Jun 88 p 6

[Article by Deng Weizhi [6772 0251 1807]: "Raise the Coefficient of Political Security for Theorists"]

[Text] If we say that our theoretical work is not rich or vivid enough, one of the important causes may be the low coefficient of political security for the theorists.

The position of theorists in China, as shown in a social cross-section, is not by means low. Some theorists did occupy eminent positions at certain times. Vertically and individually, however, they had their ups and downs. Their positions were even more precarious when "class struggle is taken as the key link." The situation, though much improved in recent years, is still by no means tranquil. Normal academic debates may suddenly be charged as indications of political dissidence and a good book just published may become the primary target of scrutiny. Because of the changes in the political climate, suspension of publication and sales, destruction of the printing plate, replacement of pages and so forth are common sights. In a certain year, for example, a theorist was invited to deliver a lecture. The script was examined in advance, the delivery of the lecture was warmly applauded, and people cordially shook hands with the lecturer. In a news report on this event, however, this theorist was accused of "opposing the CPC Central Committee." Again, when a certain theorist in Shanghai joined the "mass criticism" according to a unified plan, a tabloid with powerful backing accused him of committing the same mistakes which he himself criticized. The theorist and some others did not know whether they should laugh or cry.

Voice-data modems	
To 1,200 bits per second	580
To 2,400 bits per second	700
To 9,600 bits per second	1400
With automatic equalization	
Connections	
With 2 voice and data wires	26,650
With 4 analog wires	135,750

Source: Ministry of Postal Affairs

The Italian Telephone Co. is obviously rather pleased. It expects the Mammi decree to give impetus to mass telecomputing, both professional and consumer, in Italy as well. In addition, the Italian Telephone Co.'s plans for this year call for substantial expansion of Videotel services, with the spread of low-cost terminals, to free subscription and to payment based on normal increases in telephone use.

In this connection, Philips Italy had introduced the "active television set" (a Videotel keyboard costing 100,000 lire that can be connected both to a television set and to a household telephone) for its Christmas sales campaign. The first returns show that Philips enjoyed better-than-expected success (sales of approximately 20,000 telecomputing keyboards had been projected). The Italian Telephone Co. intends to offer business firms just as many of the Videotel Omega 1,000 terminals made by Italtel, at a cost of 7,000 lire per month. A large number of banks also plan to launch their own home banking services this year by way of Videotel. What is taking place, in other words, is an expansion long awaited in the world of telecommunications, one that could trigger the snowball effect (fed by users and new services) needed to bring Italian mass telecomputing out of its current stage reserved for a few pioneers (in mid-1988 there were only 20,000 modem users—as many as there were terminals sold at Christmas).

The Mammi decree may have an even greater effect from the professional viewpoint. The deregulation of modems will promote a further spread of corporation networks and of mass telecomputing for small businesses and individual professionals. As a matter of fact, the greatest effect is expected precisely in this second segment, which potentially is the larger and livelier. In other words, 1989 could be the year of data transmission.

Telettra To Install Phone Lines in Rural USSR

S5002425d Milan IL SOLE-24 ORE in Italian 24 Nov 88 p 10—FOR OFFICIAL USE ONLY

[Article: "After 6 Months of Testing, Moscow Acquiring Telettra Systems"]

[Text] Milan—The experimental multiple-access telephone system for rural telephone service that Telettra, a company totally controlled by the Fiat Group, installed last April in the Russian region of Tula, has successfully passed all technical and operational tests, clearing the way for the Italian company to supply these systems, for which negotiations began some time ago through the Italian multinational's Spanish subsidiary (see also IL SOLE-24 ORE of 13 July).

An agreement is to be signed shortly in Moscow setting forth the final details of the cooperation. The agreement, according to plan, should have an overall value of some 15 billion lire annually.

Telettra, as is known, possesses a worldwide leading-edge telephone transmission technology. In fact, to provide telephone service in sparsely populated zones, it uses a microwave system that is much more economical than laying cables.

And this is one of the advantages that enabled the company to bid successfully on the Russian initiative. Telettra's telephone central offices of the analog type are designed for zones with low-density telephone service, where the use of traditional systems would not be competitive. The Telettra system has already been a proven success in Venezuela, Mexico, and Colombia. In Spain, the system is operating in Galicia and Asturias.

SPAIN

Television Satellite Slated for 1992

S5001040 Paris AIR & COSMOS in French 15 Oct 88 p 39—FOR OFFICIAL USE ONLY

[Article by Pierre Langereux: "Spanish TV Satellite for 1992; Four Manufacturers Competing for the Fr2-billion Project"]

[Text] Spain has resumed its satellite project—buried in 1985, it was suddenly revived last summer—so that it would have an operational communications and direct television broadcasting satellite system by 1 July 1992.

Actually, the prime objective of the Spanish authorities is for the system to be ready to operate in time for the Seville World Fair scheduled for March to October 1992, for the Barcelona Olympic Games in July 1992, and for the 500th anniversary of Christopher Columbus's discovery of America, to be celebrated on 12 October 1992.

As a result, on 19 July, the National Institute of Aerospace Technology (INTA) invited several European and U.S. satellite manufacturers to submit proposals no later than 15 September. The very day when the INTA was handing over a feasibility study for a Spanish direct-TV satellite to the new minister of PTT [Post and Telecommunications], Mr Barrionuevo who, meanwhile, seems to have decided to accelerate the project.

The selection of a manufacturer for the Spanish satellites should be completed by the end of October, we were told by Jose M. Carballal, the INTA director of international

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programs. In fact, the Spanish cabinet will meet early in November to confirm its commitment to the project, at an estimated cost of 40 billion pesetas, i.e. about Fr2 billion, Jose Carballal indicated.

The invitation to bid, which was exceptionally concise (30 pages), stressed compliance with the schedule for the construction of ground facilities and the delivery of two operational satellites. The complete ground control station (OCS) and project management center (PMC) will have to be installed and acceptance procedures completed by 1-October 1991. The two satellites will have to be delivered in time to be launched on 1 December 1991 and 1 April 1992, and set into service on 1 March and 1 July 1992. An option covers the eventual procurement of a third satellite, the launching of which will be decided as soon as possible.

The contract to be signed with the manufacturer will include acceptance of the satellites on orbit, but the invitation to bid covers neither the launchers nor insurance for the satellites (with free relaunching). A launcher will be selected independently by the INTA before the end of 1989, we were told by Jose Carballal. In principle, the INTA intends to use the European launcher and is not considering negotiating for a U.S. or Chinese launcher, he added. Satellites should not weigh more than about 2 tons, corresponding to one half of an Ariane-4 launcher (twin launch); otherwise the payload would have to be reduced (from 3 to 2 TV channels).

The INTA has received four proposals from satellite manufacturers. Three are from European groups. Satcom International, consisting of Matra [Mechanics, Aviation and Traction Company] (France) and British Aerospace (Great-Britain), proposed a Eurostar platform with a payload to be supplied and integrated by Matra. The Eurosatellite team, consisting of MBB [Messerschmitt-Boelkow-Blohm] and ANT (Germany) together with Aerospatiale and Alcatel Space (France), counts on a Eurosat-2 platform, whereas Selenia Spazio (Italy) joined forces with GE Astro Space (United States). Finally, Hughes Aircraft (United States) stands alone, probably with its new HS-601 platform which has already been adopted for some 12 civilian (Aussat 2) and military (UFO) satellites. The INTA also consulted Dasat (Germany) and Ford Aerospace (United States), but they did not bid.

The two geostationary satellites (31z West) will carry a triple payload, corresponding to 3 direct television broadcasting and civil and military communications missions. Direct TV using the C-MAC process will use two or three 100-W channels to cover Spain and the Balearic and Canary Islands with 60-cm ground antennas, as well as Europe (France, Germany, Benelux, Italy and Great-Britain) with 1.5-m receiving antennas. Three channels will be provided for Ku-band TV broadcasting over Spain, and one channel over the Americas (PAL and NTSC standards). Public communications (telephone, fax, data transmission and videoconferencing) will use five Ku-band channels through 4.5-m (120-Mbit) or 1-m to 2-m (2-Mbit) stations. Finally, government X-band (encrypted) links will provide telephone (64-Kbit) and data-transmission (16-Kbit) service through fixed 3-m to 7-m stations and 1.8-m offshore or mobile stations. Thus, it will be possible for government links to be received throughout the Spanish territory and up to 500 nautical miles (930 km) off the Spanish coasts, with coverage of Equatorial Guinea as an option.

The consultation initiated by the INTA provides for participation of the Spanish industry to the manufacturing of satellites and stations. This clause should favor manufacturers which already have Spanish subsidiaries, such as Matra (with Crisa) and Alcatel, which will create a new subsidiary of Alcatel Standard Electrica in October; the new subsidiary will specialize in electronics and will be called Alcatel Espacio.

Technical Specifications for the Satellites and Stations of the Spanish Project

Mission	Band	Satellite Channels			Satellite Beams			Ground Stations	
		Number	Power	Width	Number	EIRP*	Coverage	Diameter	Quality**
Direct TV	12 GHz	2 or 3	100 W max.	27 MHz	2	53-56 dBW	Spain + Islands + Europe	0.6 m	+9 db/xK
TV relay - Spain	Ku	3	50 W max.	72 MHz	1 or 2	52 dBW	Spain	2-2.5 m (TV)	20-22 dB/xK
								3.5-4 m (HDTV)	25-27 dB/xK
TV relay - Americas		1	100 W max.	36 MHz	1	45 dBW	North & South America, Mexico	3 m	24 dB/xK
Civil communications	Ku	5	20 W (?)	72 MHz	1	32 dBW	Spain	4.5 m	29 dB/xK
								1-2 m	13-20 dB/xK

Government communications	X, coded	1	(?)	(?)	1	(?)	Spain + 900 km offshore	3-7 m	22-30 dB/xK
[illegible]								1.8 m	15 dB/xK

* Equivalent Isotropic Radiated Power (EIRP) in decibel-Watt (dBW)
** Quality factor: gain/noise temperature ratio expressed in decibels/degrees Kelvin (dB/xK)

UNITED KINGDOM

Defence Satellite Moves Into Orbit

35500037 London THE GUARDIAN in English 23 Dec 88 p 8—FOR OFFICIAL USE ONLY

[Article by David Fairhall, Defence Correspondent]

[Text] The first of the Ministry of Defence's L50 million Skynet communications satellites moved into orbit above the Equator last night.

The Skynet 4 programme acquired notoriety last year when it was alleged that one of its three satellites would be equipped not for communications, but for spying on the Soviet Union, under the code-name Zircon.

Plans to develop a radio surveillance satellite were disclosed by the journalist, Duncan Campbell. He suggested the launch of Skynet 4C, scheduled for orbit above the Indian Ocean in May 1990, was a perfect cover for the Zircon project, whose costing and justification was deliberately hidden from Parliament.

Ministers have acknowledged the existence of such plans, although they have been shelved—at least for the time being—but denied using Skynet as a cover. Three satellites are needed, an official said yesterday, so as to have two operational and one in orbit as a spare.

Skynet 4B, now being manoeuvred into its final position above the Atlantic, is intended to cover the NATO area. Skynet 4A will go up in August next year aboard an American Titan 3 rocket to provide the orbiting back-up. Its initial position will also be above the Atlantic.

The last in the series, Skynet 4C, will be launched by a French Ariane rocket in May 1990 and positioned off East Africa, level with the Equator.

It has never been entirely clear how the expense for the third satellite was being justified when Britain no longer had a serious military role east of Suez and would be withdrawing from Hong Kong in the 1990s.

"We have withdrawn from the Far East," a Ministry of Defence official said yesterday, "but we still need to retain some capability to communicate with naval ships out there."

UK Database Service Reportedly Worth L546m

35500035 London THE TIMES in English 22 Dec 88 p 31—FOR OFFICIAL USE ONLY

[Article by Ken young, Editor of COMMUNICATE Magazine]

[Text] According to EPS, a specialist consultancy in information markets, the UK information service market is worth L546.5 million and has more than 800 services on offer.

This puts Britain in a market-leading position with around 54 per cent of the European market, valued at nearly L1.1 billion. This is due mainly, says EPS, to its lead in supplying equity trading and foreign exchange services.

UK service providers are beginning to market their services in Europe, but penetration is relatively low.

EPS says: "Due to international telephone and data connections most services are potentially available throughout Europe, but in practice most services are only targeting one or two countries."

Language barriers are also a problem. "Some databases offer multi-lingual services, but language will continue to be a barrier until English becomes the standard business language."

By far the fastest growing sector of the on-line market is financial information services. These provide around 45 per cent of the UK revenue. A typical example is Compass Online, which holds data on 110 companies. Users can search for information relating to a company or a country, or by choosing one of the 45,000 produce categories.

In Britain, space frequency is available from the BBC and the IBA for the transmission of data throughout the TV network—effectively 98 per cent of the British Isles. One of the key users in the UK is the Stock Exchange which uses the system to transmit its Market Eye service, comprising data on UK equities, gilt-edged securities and London-traded international stocks.

And can many of our "worldly" confessors say several sincere, informal words over a grave without a crib sheet? And a church sexton would say that the marriage ceremony performed in our registry offices [zags] is hackwork. So, it should not be surprising that the church "opium" continues to cloud even present-day brains that are enlightened by the sciences. The soul is drawn there where refuge is given.

I had a remarkable dialogue with A. Volokitina, chairman of the Ust-Pechengsk rural sov[illegible]. Anna Anfinogenova, with knowledge of the matter, talked about how her countrymen and women live, what they buy in the store, what they subscribe to and read, and how much money they have on their bankbooks. She guiltily became silent only when I asked whether she knew for what reasons Komsomol member Sidorova recently baptized her firstborn, and deputy Petrova, her two sons, who are senior pupils.

"I visit the church only on a patron saint's day," Volokitina admitted frankly. "In order to hear whether there is anything anti-Soviet in the sermons. I once tried to establish contact with the father, and he then and there took the opportunity to ask permission. . . at times to sit in at sessions and meetings of the ispolkom."

"You did not allow it?"

"What else!"

Brief, but very eloquent indeed. But I liked that seditious initiative of the Ust-Pechengsk father superior very much (true, he is now in another parish). Well, he will not miss his chance, and we? Are we always seeking, finding and seizing any opportunity to look into the human heart—into another soul. Which, maybe, is drawn to us more strongly than to the temple?

. . . I finished my notes in the Gryazovetskiy Rayon. Three of the 17 parishes functioning now in Vologodskaya Oblast (not counting the newly opened church in Totma) are in villages in the nearby area. Apparently, it is for this very reason that the visiting (vyezdnoye) conference of the department of propaganda and agitation of the Vologodskiy CPSU obkom was held here. The conference examined the question "on the individual approach to the atheistic education of the population." Not bothering the reader with an exposition "of individual shortcomings in the system of party management of atheistic education of the population," I will say, however, that this system is in deep stagnation, if not worse.

There is this kind of a line in the resolution document: "The ideological activ obtains information on the activity of religious organizations in the rayon. . ." I strongly doubt the truth of this assertion. The rayispolkom showed me such information on the condition: "Not for publication." N. Voronin, a representative of the council on religious matters in Vologodskaya Oblast, when requested to acquaint the correspondent with the activity of the Vologodskaya eparchy [diocese], turned the key in a lock and, excusing himself, said: "All information of this kind goes to Moscow under a "secret" stamp, so I do not have the right."

Secret—just like in a confession. Only it is not known what is being concealed. It looks like it is the fact of their capitulation to the father.

Results of Youth Poll on Religious Issues Reported

18000552a Tallinn MOLODEZH ESTONII in Russian 6 Jun 89 p 3

[Article by Ye. Grishina, under the rubric "Sociological Laboratory": "Are We Religious?"]

[Text] The process of renewing society has made the problem of the human being, his spirituality and morality, paramount. In this connection a great deal of attention is being given to questions of the attitude toward religioun, the level of acceptance of religious culture, and its place and role in spiritual culture and in the life of contemporary society.

The Scientific Research Center of the Higher Komsomol School of the All-Union Leninist Komsomol Central Committee conducted a sociological study on this subject. They questioned 420 representatives of the youth intelligentsia and college students in Moscow and Leningrad, including doctors, teachers, engineers, and representatives of the creative professions. In addition, young believers in the non-traditional religious grouping of Hare Krishna were questioned by the identical methodology.

On the basis of the data received we can say that the interest in religion, above all in religious culture and the ethical side of religious teachings, is quite high among the youth intelligentsia: about 40 percent of all the young people surveyed were familiar with religious literature (mainly the Bible, less commonly the Koran and the Talmud), and the interest shows most markedly among the creative intelligentsia.

Young people are attracted first of all by the historical and literary value of these works. In their answers they often speak of the humanism and wisdom expressed in these monuments of religious teaching. It is interesting that some respondents consider the Bible's prophesies timely for the present day; they consider them a kind of "futurology." This is found most commonly among students.

Responding to a question about the reasons for the preservation of religious feelings, almost half of the respondents agreed with the statement that in ordinary ideas there is a mixture of national and religious concepts and that it is often impossible to separate national from religious traditions. Perhaps this is why the growth

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in national self-awareness which has been manifested more and more vigorously in recent years carries in itself somewhat idealized ideas of the role of religion in national culture. Thus, 23 percent of the creative youth feel that national culture cannot exist without religion, and overall 16.4 percent of the respondents hold this point of view.

A fact that draws attention is that four percent think that religion under contemporary conditions is a "form of defense of national interests" and express the opinion that religious fundamentals should be taught in school. About 10 percent of the young people surveyed think that in the process of religious organizations' more active interaction with society they must be represented in state organs, and 14 percent propose organizing broad access to the mass information media for religious organizations.

It appears that such a "radical" position in part of the intelligentsia may be caused by a reaction of rejection of that "atheistic" stereotype that has been artificially imposed for many years. At the same time it is direct evidence of an inadequately mature civic position in some young people, a result of equating the concepts of religion and morality, religion and culture, and so in the ideas of these young people.

A significant number of respondents (about 30 percent) expressed the opinion that one of the primary reasons for the preservation of religious feeling is shortcomings in the system of education and indoctrination, which does not adequately mold a scientific materialist worldview. Thus, to the question, "Did the knowledge received in these classes help you in realizing and formulating principles and goals in life and in searching for answers to the questions that are important to you?" 38 percent answered, "No," and 30 percent were unable to give any answer at all. But this is just one aspect of the general problem of dehumanization of the system of education and indoctrination.

Along with the youth intelligentsia these same questions were answered by a group of young believers, followers of the Hare Krishna cult. The answers to questions about the level of teaching of history and literature are practically the same for both groups. But 70 percent of the believers gave a negative assessment to the role of the humanitarian knowledge received in school. If we consider that the ranks of the believers are filled most often by emotional, suggestible types who are easily wounded psychologically, then the damage to their spiritual world that is caused by the mechanical, stereotyped approach to humanitarian culture could have been the initial impetus to withdraw into religious mysticism. It is not surprising that an absolute majority (95 percent) of them think that religion fosters an awakening of the higher spiritual principle in people.

While traditional, canonical religious culture attracts the attention of about half of the respondents, a majority (80 percent) are interested in questions linked to mysterious phenomena of nature and the human mind (UFO's, telepathy, telekinesis, the biofield, and the like). There is a notable infatuation with dream books, horoscopes, fortune telling, and the like. Although 36 percent consider all of these things a kind of "game" and something to do "from boredom," 32 percent of the young people surveyed link fortune telling with a hope to avoid dangers and unpleasantness and a desire to know one's future, and almost as many say that they have encountered cases which verified certain signs, predictions, and so on.

I would like to point out one other aspect of the problem of non-traditional religion. This is that because of a certain eclecticism and primitivism the so-called "neocults" are unable to perform the religious compensatory function and cannot serve as a adequate means of individual social adaptation. Therefore, politization of the activity of non-traditional religious groups is almost inevitable. This is confirmed by foreign experience, and by our own domestic experience. Most of the existing associations which to one degree or another have a religious (or pseudoreligious) orientation are drawn to consolidation. Steps are being taken to work out common ideas and programs whose purpose is to form a political organization of believers, persons united by "space religion," and so on.

Many Soviet social scientists are now speaking of the "need to refine the existing pactices in classifying believers with religious organizations considering the real processes in the ideology and activity of our country's religious organizations." But while rejecting vulgar atheism which has been imposed on mass consciousness for many years, we must understand that idealized ideas of religion and religious organizations are also unwise and usually result from inadequate theoretical literacy and humanitarian culture.

Under conditions of continued democratization of public life in the country the activity of religious organizations, including the non-traditional ones, will grow. Overall this is natural, and given all the diversity of the situation there must be broader interaction with religious oragnizations and groups of believers in the social, cultural, and sociopolitical spheres. Joint activity by religious, public, and state organizations offers an opportunity for believers to achieve social self-realization not only in the religious sphere, but also in solving socially significant problems. Such interaction can help reorient the individual and mold a scientific materialist worldview through concrete activity, through solving joint problems that are equally important to believers and non-believers.

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SERIAL: LD2205081590

BODY
COUNTRY: USSR
SUBJ: USSR, PRC SCIENTISTS IN JOINT STUDY OF UFO'S

SOURCE: MOSCOW DOMESTIC SERVICE IN RUSSIAN 2100 GMT 21 MAY 90
TEXT:

((TEXT)) A REPORT FROM VLADIVOSTOK -- SCIENTISTS OF THE PRC AND THE SOVIET FAR EAST HAVE BEGUN JOINT STUDY OF UFO'S. THE FIRST MEETING OF UFOLOGISTS OF THE TWO COUNTRIES HAS ENDED IN THE SMALL MARITIME TOWNLET OF DALNEGORSK. THE SOVIET AND CHINESE SPECIALISTS ON ANOMALOUS PHENOMENA HAVE MAPPED OUT A PROGRAM FOR INVESTIGATING INCIDENTS THAT ARE ALREADY KNOWN AND HAVE ALSO ARRANGED TO DIRECTLY EXCHANGE VIDEO AND PHOTOGRAPHIC MATERIALS ON NEW SIMILAR PHENOMENA. DALNEGORSK HAS NOT BEEN CHOSEN BY CHANCE AS THE PLACE FOR SUCH ACQUAINTANCE. IN THE LAST FEW YEARS THE NUMBER OF CASES OF VISUAL OBSERVATION OF UFO'S HAS NOTICEABLY INCREASED THERE. IN JUST THE

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LAST FOUR YEARS ALONE NO LESS THAN 10 UFO'S HAVE BEEN RECORDED. SPECIALISTS LINK THEIR HEIGHTENED INTEREST IN PLACES HERE WITH THE VARIETY AND WEALTH OF USEFUL MINERALS IN MARITIME KRAY. SIMILAR INCIDENTS HAVE ALSO OCCURED IN MOUNTAINOUS REGIONS IN CHINA WHOSE CLIMATIC CONDITIONS AND NATURAL LANDSCAPE RESEMBLE OUR OWN.

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English Summaries of Major Articles

90UI0138b Moscow NARODY AZII I AFRIKI in English No 4, Jul-Aug 89pp 218-221

[Text] COUNTRIES OF ASIA: STATE POLICY TOWARDS SMALL BUSINESS

V.N. OLYAKHIN

In Oriental countries the state actively influences the development of small enterprise, ensuring in fact equal possibilities for evolution for all sectors of economy, in all fields of activities, as concerns deliveries of source goods, allocation of investments, training of qualified personnel and the taxation, both direct and indirect. Facing the necessity of prioritary development of science- and capital-intensive branches which would pay for themselves in the long run, developing countries of Asia finally succeed in finding such a compromise solution that foresees in the long-term perspective a join of increasing quantities of living and materialized labour, i.e. is based on combination of labour-, capital- and science-intensive productions and intended for well-balanced growth of small-scale, big capitalist and state sectors.

From this point, the experience of Asian countries is of a certain importance for developing small (in particular, co-operative) sector in the USSR. The recently adopted laws on the state enterprise, the co-operation and the individual labour activities meant a legal acknowledgement of such objective reality as the multi-sector nature of Soviet economy. However, the perestroyka in general has not shaken the monopoly of state property, and this makes possible negative processes in economy to grow without hindrance. The state sector still stays apart from any competition. Only secondary roles are still assigned to co-operative and self-employed workers. In the existing conditions they are not able to organize any important production while co-operators could successfully ensure, for instance, a small-series production of mini-tractors, mini-combines, electronic equipment and electrotechnical devices, as well as the small enterprises perform this function in practically all countries of Asia. But this way is still firmly blocked by a deep-rooted dogma in our consciousness that proclaimed the state property to be a priori the height of perfection.

STANDARD OF NON-CAPITALIST DEVELOPMENT

M.A. OLIMOV

One could not deny that the building of socialism in majority of socialist-oriented states was realized under strong influence of the Soviet experience which was advocated by our theorists as the basic model of socialism. They wrote piles of works pretending to give analysis of the non-capitalist way of development in Central Asian Soviet republics, recommended as a standard for young states of the "third world." However, these works were completely out of touch with reality, ignoring existing problems and difficulties. But recently, when monstrous distortions of socialist principles in Soviet Asian republics came to light, they puzzled many theorists of social sciences and party workers, unmasked complexity and contradictions of the real socialism and its ways.

In the author's opinion, we should admit that problems actually faced by the republics of Central Asia and Kazakhstan are similar to those of developing countries of the East (to some extent this includes also countries which develop on the capitalist way). Dangers that threaten these peoples in general are connected with accelerated path of historical development, negative influence of the whole underdevelopment in the pre-socialist period, the heritage of feudalism. The article scrutinizes a key problem of this heritage—the conservation and functioning of the traditional society in Soviet Asian republics.

The socialism built under Stalin's direction was itself a model of feudal community. Its features were paternalism, hierarchic and caste structure, use of a powerful compulsion machinery. In Central Asian republics the hierarchy of Stalin's socialism joined the hierarchy of the old feudal system. Institutes of traditional society which still remain attractive for masses, in the epoch of stagnation became a good camouflage for money-grubbing and corruption. Forcibly spread wage-levelling also contributed to the conservation of the feudal type community. The wage-levelling of the barrack-like socialism was close by nature to the feudal levelling and therefore easily took root in mass conscience.

AFRICA. DIFFERENT ORIENTATIONS AND COMMON PROBLEMS. ON SOCIAL AND ECONOMIC POLICY IN COUNTRIES OF ALTERNATIVE ORIENTATIONS

Yu.V. POTYOMKIN

Scepticism towards possibilities of socialist-oriented policy in developing countries, which became widespread lately among Soviet researchers, is a sort of retroactive reaction to the overestimated realities in the past. However, considering the capitalist and the socialist orientations of development we should not exaggerate their difference, which is strict enough in the political and ideological field but is less important in the social and economic sphere. This is quite natural, because the main tasks of overcoming backwardness faced by developing countries are similar if not identical. Their essence is the accelerated creation of the potential for this overcoming, all possible development of productive forces, both material and human. This circumstance inevitably reduces the social and economic difference between the two alternative lines to non-significant variations in proportions of certain aims and methods of policy in countries of both orientations at the present stage. This thesis is confirmed in the article by a review of the policy of African states on main problems dealing with vital people's interests, i.e. the essential, human component of productive forces.

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In the author's opinion, the degradation of social and economic situation on the continent in 1980s, connected in fact mainly with objective factors, cannot be explained merely by the socialist-oriented way. It would be wrong also to compare results achieved in countries of both types for a too short historical period; to consider measures of normalization as a deviation from the socialist orientation; to interpret this orientation as a stage of "building of socialism." This is a long-range policy, and its destinies are not determined by factors of conjuncture. Its necessary pre-conditions are the existence of a solid economic basis—the public sector of the economy, while not necessarily predominant, and the conviction of political leaders in a historical need for socialist orientation.

TURKISH ASPECTS OF TRUMAN DOCTRINE AND SOME MISTAKES OF STALINIST DIPLOMACY

A.Sh. RASIZADE

While Greek events and the situation about Turkey were the occasion to proclaim the doctrine, its Greek and Turkish aspects haven't been yet a special subject of study in our country. However, the Truman doctrine played a crucial role in American-Turkish relations, in the choice by Turkey of its place in the post-war world, and this influenced, of course, the Soviet-Turkish relations as well. The principles of the doctrine still stay the basis of bilateral relations between Turkey and the USA.

The author tried to reconsider the Soviet interpretation of the Truman doctrine. Now, when we review our past, it is useful to show consequences of the wrong approach by I.V. Stalin and his associates to the Soviet policy in the region.

The Soviet-Turkish relations reached a high level of tension during first post-war years. In course of the second world war Turkey took in fact anti-Soviet positions, and after the war the Soviet government denounced the Treaty on friendship and neutrality between the two countries, signed in Paris in 1925, and suggested to prepare a new treaty. However, Soviet proposals that followed, aggravated even more the bilateral relations, contributed to the western orientation of Turkey. With approval of Stalin, Georgia and Armenia put in claims on the adjacent parts of Turkish territory. In the course of the diplomatic discussion on the regime of the Black Sea straits between USSR, USA, Great Britain and Turkey, the Soviet party also raised claims unacceptable for the Turks, which resulted in drawing up of a common British-American-Turkish position.

SYNCRETISM OF RELIGIOUS AND MYTHOLOGICAL CONCEPTS OF PRE-MOSLEM TURKS

I.V. STEBLEVA

The article deals with insufficiently explored problem of various religious and mythological pre-Islam systems which functioned among Turkic peoples of Central Asia, Southern and Eastern Siberia. From the 6th century Turkic peoples began to form military, political and state unions of tribes. On their territories written texts were created, dealing with shamanism, Buddhism, Manichaeism and Christianity. The adoption of Islam by Turks in Central Asia began in 10th century, but this process was long, and during several centuries Turkic peoples lived in the sphere of other cultural and religious traditions.

Turkic manuscripts available for studying these pre-Islam conceptual systems are written by runic, Manichaean and Uighor scripts. They include special religious texts (prayers, hymns, instructions and norms of religious behaviour) as well as literary works (epitaphs, historical and heroic poems, didactic parables and novels).

A most peculiar feature of these works is the interaction of various religious and mythological traditions. Shamanic texts are influenced by the Manichaean religion (the runic fortune-telling book). Manichaean hymns are created under the influence of Buddhism. The syncretism of Manichaean and Buddhist ideas and notions reaches the level where Mani is identified with Buddha. Manichaeism receives as well an impact of Christianity: in the prayer addressed to "Mani-Angel (and) Buddha" the word equivalent of "angel" means also "apostle." Turkic Christian texts were influenced by shamanism (the ritual formula of space description) and Manichaeism which included in its turn some features of zoroastrianism.

SOCIAL AND POLITICAL VIEWS OF ABU-L-HASAN AL-MAWARDI (NEW TRENDS OF STUDIES)

A.A. IGNATENKO

Works created by this eminent Moslem medieval lawyer, expert on problems of the state, have been studied for a long time by orientalists. Modern islamists interpret the heritage of al-Mawardi, this distinguished theorist of the islamic state—caliphate, as being purely theocratic concept.

The notion of "concord" (*ulfa*) takes a key place in his concept aimed at giving explanation to the existence and functioning of society. This "concord" is necessary for people to receive "sufficient matter of their life" in the course of "development of the world" (*imara*). Human society is considered by the medieval theorist to be innerly differentiated: "unity in difference" is a pre-condition of "union" (*i'tilaf*) of people performing various functions in the process of "development of the world" (tillage, handicraft etc.) and therefore needing one another.

Mutual hostility inherent in people by nature requires the existence of power to consolidate this union using the "religion" (*din*). Al-Mawardi reconsiders the notion of "religion" interpreting it as any set of society-organizing norms and rules, including even "dishonesty" (*kufr*) if it

performs the function of uniting people. Norms of the "religion" interpreted in this way are obligatory both for subjects and the sovereign (*malik*), the supreme ruler who is to take measures to ensure the community life.

The article calls in question the authorship of the "Sermon to sovereigns," a well-known treatise whose manuscript is kept in the National Library of Paris, traditionally attributed to al-Mawardi.

ROLE OF SCALES OF TIME AND SPACE IN MODELLING OF HISTORICAL PROCESS

G.S. POMERANTS

Rationality or irrationality of the history depends to a considerable extent on the scale applied to it. This idea was put forward in 1784 by E. Kant who noted the trend to all-world political unification. F. Schlegel, leaning upon the Indian experience, argued that there were no planetary time; each great culture went the way from revelation to rational constructions leading to a loss of creative impulse and to a decline. The model by Kant, in the final analysis, can be traced back to Augustus and Jewish promise of Messiah, and the model by Schlegel—to the Indo-European mythologem of four centuries (golden, silver, copper and iron). These models are not mutually excluding. Total historical movement has a complex inner structure including a number of movements, each of them being evident on a certain scale of articulation of historical time and space. The article distinguishes five scales of the time and the same number of scales for the cultural space. On the super-large scale of Indian mythology, the history in general is an illusion and only eternity is real. On a global large scale accumulated changes (growth of productive forces, of population, differentiation of society and intellect; growing alienation, ecological tension etc.) are first and foremost. A middle global scale discerns wave movements, the "eternal return," the revival of archaic features in the Middle Ages and of the classics in the modern history. In Chinese historiography this is expressed by an alternation of dynasties *in* and *yan*. On a middle local scale the most important are cycles of rise and decline of various cultures. These movements, while they are different enough, can be considered as being rational, easily modelled. They are opposed to explosive movements directed by a charismatic leader (M. Weber) or a group of "passionaries" (L.N. Gumilyov). Here only anthropomorphous scale is possible. There are no reasons to explain Mongolian conquests besides those interlaced in Gengis Khan's personality. It is impossible to foresee what new "passionary" (Hitler, Khomeini) will frustrate all plans of sober-minded people. However, the course of time smoothes away traces of explosions and all the logic of history is restored to its rights.

ROUND TABLE

FUTURE OF ECONOMIC HISTORY OF THE EAST

Participants: N.A. IVANOV, M.F. VIDYASOVA, L.S. VASILIEV, YU.G. ALEKSANDROV, A.D. DIKARYOV, V.A. YASHKIN, A.V. AKIMOV

This Round Table concerns problems of development of the economic history of the East in the USSR. The article by A.M. Petrov "New Tasks of Ancient Science and Some Materials for Study of Economic History of the East" (1989, No 2) gave rise to the present discussion. The participants put the question: what is the reason of such a lag in the field (history of economy) which was traditionally considered by the marxist science as a priority? A number of solutions is suggested. In the authors' opinion, use of quantitative methods would allow to reject some dogmas which need to be reviewed, e.g. the dogma of the "robbery" of the East as a source of primary capitalist accumulation. The economic backwardness of the East was, first of all, a result of the non-ability of etatist economy to ensure the extended reproduction, and not that of the "colonial robbery."

A negative influence on the East, exerted by the West, was rather that the East actively rejected all western elements, becoming more and more archaic. However, one should not consider that modernization of the eastern economy is inevitably to lead to the death of traditional structures, pre-industrial civilization. The study of economic history of the East would help understanding economic problems of the USSR.

Results of the study of economic history could be applied for forecasting trends in the following fields: global problems, studies of economic growth and analysis of precedents.

UNIDENTIFIED FLYING OBJECTS (UFO) IN ANCIENT CHINA

A.D. DIKARYOV

The process of emancipation of thought in China in 1980s is particularly impressive after the spiritual vacuum of the epoch of "cultural revolution." The thirst of the whole society for knowledge based on the economic reforms, takes in a number of cases the form of unofficial science. An example of such organizations is the scientific societies of UFO fanciers with corresponding periodicals as the revue "Feidie Tansuo" ("Studies of Flying Saucers"). The efforts by Chinese scientists to find in ancient Chinese sources "historical evidences" of UFO' existence are of particular interest for Sinologists and experts in science of science. The activities of adherents of this new scientific trend in China demonstrate methodology and tasks of the Chinese historical science in general.

The article considers a number of concrete modern versions of interpretation of historical materials on extraordinary flying phenomena. A number of works criticizing the attempts to place a historical basis under this problem, as a rule, does not dispute the main modern concept of UFO as a product of alien mind.

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[illegible] Capitalist Development Experience in [illegible] Asia Reviewed

[illegible] Moscow NARODY AZII I AFRIKI in [illegible] No 4, Jul-Aug 89 pp 18-26

[illegible] article by M.A. Olimov under the rubric "Socialism in the Orient: A Standard of Non-Capitalist Development"

[illegible] *The institutions of traditional society in Central Asia that retained a certain allegiance among the masses gave a good camouflage for greed during the time of stagnation. Adylov, for example, tried to ground the legality of his "rule" through purely feudal methods, i.e. traced his genealogy back to Tamerlane. The strongly rooted leveling facilitated the preservation of communes of a feudal type. This was not a consequence of the barracks socialism that was propagated by the first utopian socialists Owen, Saint Simon and Fourier and incarnated in our country by the revolutionaries infected with "the infantile disease of leftism" alone. The leveling of barracks socialism is genetically close to feudal leveling and thus easily entered the mass consciousness.*

The question of socialist orientation and the non-capitalist path of development is evoking heated disputes in Oriental studies of late. Debates that were held on this problem at the Oriental Studies Institute and Africa Institute of the USSR Academy of Sciences and a number of articles published in the pages of the journals NARODY AZII I AFRIKI, AZIYA I AFRIKA SEGODNYA and MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA' confirm the undoubted topicality and undeveloped nature of these problems.

The enormous quantity of new materials that are finally accessible to researchers and the opportunity to express oneself openly and honestly and to discuss in the press topics that were closed before have elicited a need to review many of the views on the most difficult problems of the developing countries that have chosen the non-capitalist path of development.

It cannot fail to be seen that the building of socialism in the majority of the socialist-oriented nations was and is being conducted under strong influence from the experience of the USSR, which was propagated by our theoreticians as the base model for the building of socialism and was perceived to be the standard. The model of development of the Central Asian republics and Kazakhstan, which did not undergo the stage of capitalism, was taken as the foundation. Mountains of literature were written in which the non-capitalist development path of the Central Asian republics was supposedly analyzed and recommended as a prototype for the young Third World countries. All of these works, however, suffered from common shortcomings: an enormous distance from reality, a silence regarding real problems and difficulties and an idealization of the process of building socialism in national regions that had earlier been backward. When distortions of the principles of socialism that were monstrous in scope began to be uncovered in the republics of the Soviet Orient, they forced many social scientists and party workers into a blind end, reversing the complex and equivocal nature of real socialism and ways of building it. All of this dictates the persistent necessity of studying and interpreting the experience of the non-capitalist path of development of the Central Asian republics and Kazakhstan. The need for such research is entered, on the one hand, by the development needs of the republics themselves—since without an objective analysis of the situation, it is impossible to move forward or to correct the multitude of errors and omissions that have now become tangled in a tight knot of almost insoluble problems—and, on the other hand, it is essential for a deepening of our notions of contemporary socialist orientation, since our former ideas, founded on an uncritical approach toward Soviet experience have not been confirmed by life[7].

It must be acknowledged that the problems facing the republics of Central Asia and Kazakhstan today are largely similar to the difficulties that the developing countries in the foreign Orient are experiencing (as relates partly to the countries that have chosen the capitalist development path as well).

Our academics had tried to convince us that the development path of the Oriental republics of the USSR differs radically from the evolution of the socialist-oriented countries of the Orient. Acute conflicts of a national, economic, political and cultural nature have been detected today, however, that are a consequence of the profound processes that we have successfully closed our eyes to over this whole time. Some economists have dared to acknowledge that Tajikistan, for example, is a developing republic with problems that are common to the Third World. They include a high birth rate, i.e. a population explosion, and the problem of a surplus of labor resources that is associated with it, as well as the adaptation of a traditional society founded on the feudal-type rural commune to modern times and the entry of traditional feudal social structures into a modern infrastructure. These issues have been raised in the course of debates that have taken place in Tajikistan, Uzbekistan and Turkmenia and have been reflected in the pages of the republic press.

* * *

The majority of researchers engaged with these problems are coming to the conclusion that the circle of dangers lying in wait for socialist revolution and the building of a new society is determined principally by the "straightening out" of the historical path, the negative effects of the overall lack of development in the pre-socialist period and the "birthmarks of feudalism." While accepting this point of view in general, I would like to direct the reader's attention to one of its key elements—

Referring to the announced nuclear powerplant in this city, Castro Madero said that if it is decided to install a nuclear energy-driven powerplant in the area, "we will have an economic and nonpolluting source of energy." He explained: "But that depends on the plans of the energy secretariat."

He also spoke of the future of a heavy water plant in Arroyito, Neuquen Province, regarding which he said that "the plans remain firm, but there are problems of international safeguards, which is why that technology is being held back. So Argentina has taken the road of installing a pilot plant at Atucha." He concluded by saying: "When Argentina is in a position to define its industrial plan and has the technology, I believe it will be installed in Arroyito."

Castro Madero concluded by referring to Atucha II, Embalse Rio Tercero and other plans which are being drawn up, regarding which he said that he is "waiting for the final report from the energy secretariat, which has finished the first part." He asserted: "That is, decisions have been made on the electrification network up to the year 1985 and the second stage, from that year until 2000, is being planned."

BOLIVIAN ARMY COMMANDER VILLALPANDO TO VISIT

FL130255Y Buenos Aires NOTICIAS ARGENTINAS in Spanish 2150 GMT 12 May 78 FY

[Text] Buenos Aires, 12 May--According to a responsible source, Gen Alfonso Villalpando Ibanez, commander in chief of the Bolivian Army, will arrive here next Monday. This high-ranking military officer is scheduled to arrive at Ezeiza at 1300.

RELATIVES OF MISSING PERSONS SUBMIT PETITION TO GOVERNMENT

FL121300Y Santiago Chile Radio Mineria Network in Spanish 1030 GMT 12 May 78 FY

[Text] Buenos Aires--A group of relatives of missing persons has submitted to the government a petition with 17,005 signatures. The group expresses its concern over the fate of thousands of missing persons. The document, which was also released to the mass media, adds that the group wishes to hold a meeting with a presidential advisory committee to find out "about our dear relatives."

INTERIOR MINISTRY REPORTS ARRESTS, RELEASES

FL130253Y Buenos Aires TELAM in Spanish 2342 GMT 12 May 78 FY

[Excerpt] Buenos Aires, 12 May--The Interior Ministry reported today that as of 5 May five persons were arrested and placed at the disposal of the executive branch while eight persons were released. One person was authorized to leave the country within the same period of time.

AUTHORITIES REPORT SATELLITE DOWN IN BOLIVIA

PA142357Y Madrid EFE in Spanish 1740 GMT 14 May 78 PA

[Text] Salta, Argentina, 14 May--The strange object that some people in the northern zone of Salta Province, 1,700 km from Buenos Aires, claim they saw falling was in fact an artificial satellite which already has been located in Bolivian territory, official sources in Salta announced Sunday.

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Many people in this part of the country claim they saw an object which resembled a soccer ball falling behind the mountains on the Argentine-Bolivian border, causing an explosion that shook the earth. This took place on 6 May. Around that time some people in San Luis and Mendoza provinces reported seeing a flying saucer squadron flying in formation.

The news from Salta confirms that the artificial satellite fell on Taire Mountain in Bolivia, where it has already been located by authorities. The same sources said that the area where the artificial satellite fell has been declared an emergency zone by the Bolivian Government.

YPF SIGNS $250-MILLION CREDIT IN U.S.

FY101514Y Buenos Aires Domestic Service in Spanish 1030 GMT 10 May 78 FY

[Text] Raul Ondarts, president of Government Oil Deposits (YPF), signed a credit agreement for $250 million with a group of international bankers in New York on 3 May.

The announcement was made by (Ernesto Varela), the financial director of the government institution, upon his return from the United States yesterday. He said that YPF will use $100 million for exploration plans and $150 million to reduce its foreign debt, transforming it from short to medium term.

The credit agreement is on a 7-year basis with a 2-and-½-year grace period. The terms of the agreement were, at the time of negotiation, the most favorable granted to our country or to YPF.

BRIEFS

RESTRICTIONS ON FIREARMS--The executive branch has upheld the restriction on the transportation of firearms, including small- and large-caliber hunting arms, in order to maintain strict control on the use of all firearms. Authorization for shipment of arms should be requested from local authorities and will be valid only for a limited time. Transportation of some semiautomatic and automatic rifles is banned under all circumstances. [Buenos Aires Domestic Service in Spanish 2000 GMT 5 May 78 FY]

ELECTRONIC TELEX SWITCHBOARD--Buenos Aires--The National Telecommunications Company will inaugurate a computerized, totally electronic telex switchboard for international services on Monday. The new switchboard will permit an increase in the number of circuits to 1,200. As a consequence of the use of the new telex central, channel 0111 will no longer be used as of Monday; nor will channels 0111, 0112 and 0113, as of Wednesday. [Buenos Aires TELAM in Spanish 1627 GMT 5 May 78 FY]

TV MICROWAVE LINK--Santa Rosa, La Pampa, 5 May--The local TV station will broadcast experimental programs transmitted by microwave this weekend. The microwave link will connect Santa Rosa with the national microwave network through the city of Bahia Blanca. [Buenos Aires TELAM in Spanish 1330 GMT 5 May 78 FY]

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EO 13526 3.5(c)

THE CENTRAL INTELLIGENCE AGENCY AND OVERHEAD RECONNAISSANCE

The U-2 and OXCART Programs, 1954 - 1974

Gregory W. Pedlow and
Donald E. Welzenbach

Secret

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The Central Intelligence Agency and Overhead Reconnaissance:

The U-2 and OXCART Programs, 1954-1974

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History Staff
Central Intelligence Agency
Washington, D.C.

1992

~~Secret~~

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Dissemination Control Abbreviations

NOFORN (NF)	Not releasable to foreign nationals
NOCONTRACT (NC)	Not releasable to contractors or contractor/consultants
PROPIN (PR)	Caution—proprietary information involved
ORCON (OC)	Dissemination and extraction of information controlled by originator
REL...	This information has been authorized for release to...
WN	WNINTEL—Intelligence sources and methods involved
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FOREWORD

This History Staff Monograph offers a comprehensive and authoritative history of the CIA's manned overhead reconnaissance program, which from 1954 to 1974 developed and operated two extraordinary aircraft, the U-2 and the A-12 OXCART. It describes not only the program's technological and bureaucratic aspects, but also its political and international context. The manned reconnaissance program, along with other overhead systems that emerged from it, changed the CIA's work and structure in ways that were both revolutionary and permanent. The formation of the Directorate of Science and Technology in the 1960s, principally to develop and direct reconnaissance programs, is the most obvious legacy of the events recounted in this study.

The authors tell an engrossing story. The struggle between the CIA and the US Air Force to control the U-2 and A-12 OXCART projects reveals how the manned reconnaissance program confronted problems that still beset successor programs today. The U-2 was an enormous technological success: its first flight over the USSR in July 1956 made it immediately the most important source of intelligence on the Soviet Union. Using it against the Soviet target it was designed for nevertheless produced a persistent tension between its program managers and the President. The program managers, eager for coverage, repeatedly urged the President to authorize frequent missions over the Soviet Union. President Eisenhower, from the outset doubtful of the prudence and propriety of invading Soviet airspace, only reluctantly allowed any overflights at all. After the Soviets shot down Francis Gary Powers' U-2 on 1 May 1960, President Eisenhower forbade any further U-2 flights over the USSR. Since the Agency must always assess a covert operation's potential payoff against the diplomatic or military cost if it fails, this account of the U-2's employment over the Soviet Union offers insights that go beyond overhead reconnaissance programs.

Indeed, this study should be useful for a variety of purposes. It is the only history of this program based upon both full access to CIA records and extensive classified interviews of its participants. The authors have found records that were nearly irretrievably lost and have interviewed participants whose personal recollections gave information available nowhere else. Although the story of the manned

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reconnaissance program offers no tidy model for imitation, it does reveal how resourceful managers coped with unprecedented technological challenges and their implications for intelligence and national policy. For this reason, the program's history provides profitable reading for intelligence professionals and policymakers today.

Many people made important contributions to the production of this volume. In the History Staff's preparation of the manuscript, Gerald Haines did the final revision, [redacted] again demonstrated her high talent as a copy editor, and [redacted] provided staunch secretarial support throughout. As usual, we are indebted to more members than we can name from the Publications, Design, and Cartography Centers in the Office of Current Production and Analytic Support, whose lively interest in the publication went far beyond the call of duty. Their exceptional professional skill and the masterly work of the Printing and Photography Group combined to create this handsome volume.

Donald E. Welzenbach, who began this study, and Gregory W. Pedlow, who completed it, brought complementary strengths to this work. A veteran of CIA service since 1960, Mr. Welzenbach began research on this study in 1983, when he joined the DCI History Staff on a rotational assignment from the Directorate of Science and Technology. After tireless documentary research and extensive interviewing, he finished a draft manuscript of the history before returning to his directorate. In early 1986, Gregory W. Pedlow, a new member of the DCI History Staff, was assigned to complete the study. A Johns Hopkins University Ph.D. who has served as an Army intelligence officer and University of Nebraska professor of history, Dr. Pedlow undertook important research in several new areas, and reorganized, edited, and revised the entire manuscript before leaving CIA to become NATO Historian in late 1989. The final work, which has greatly benefited from both authors' contributions, is the CIA's own history of the world's first great overhead reconnaissance program. ◆

J. Kenneth McDonald
Chief, CIA History Staff

April 1992

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PREFACE

When the Central Intelligence Agency came into existence in 1947, no one foresaw that, in less than a decade, it would undertake a major program of overhead reconnaissance, whose principal purpose would be to fly over the Soviet Union. Traditionally, the military services had been responsible for overhead reconnaissance, and flights deep into unfriendly territory only took place during wartime. By the early 1950s, however, the United States had an urgent and growing need for strategic intelligence on the Soviet Union and its satellite states. At great risk, US Air Force and Navy aircraft had been conducting peripheral reconnaissance and shallow-penetration overflights, but these missions were paying a high price in lives lost and increased international tension. Furthermore, many important areas of the Soviet Union lay beyond the range of existing reconnaissance aircraft. The Air Force had therefore begun to develop a high-altitude reconnaissance aircraft that would be able to conduct deep-penetration reconnaissance missions over the Soviet Union. President Dwight D. Eisenhower and his civilian scientific advisers feared that the loss of such an aircraft deep in Soviet territory could lead to war and therefore authorized the development of new nonmilitary aircraft, first the U-2 and later the A-12 OXCART, to be manned by civilians and operated only under cover and in the greatest secrecy. Primary responsibility for this new reconnaissance program was assigned to the Central Intelligence Agency, but the Air Force provided vital support.

The Agency's manned overhead reconnaissance program lasted 20 years. It began with President Eisenhower's authorization of the U-2 project in late 1954 and ended with the transfer of the remaining Agency U-2s to the Air Force in 1974. During this period the CIA developed a successor to the U-2, the A-12 OXCART, but this advanced aircraft saw little operational use and the program was canceled in 1968 after the Air Force deployed a fleet of similar aircraft, a military variant of the A-12 called the SR-71.

Neither of these aircraft remains secret today. A great deal of information about the U-2 and its overflight program became known to the public after 1 May 1960, when the Soviet Union shot down a CIA U-2 and publicly tried its pilot, Francis Gary Powers. Four years

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later, at press conferences in February and July 1964, President Lyndon B. Johnson revealed the existence of the OXCART-type of aircraft, although only in its military YF-12A (interceptor) and SR-71 (strategic reconnaissance) versions.

The two CIA reconnaissance aircraft have also been the subject of a number of books, beginning with David Wise's and Thomas B. Ross's *The U-2 Affair* in 1962 and then Francis Gary Powers' memoirs, *Operation Overflight*, in 1970. Two recent books give many more details about the U-2 and OXCART aircraft: Michael Beschloss's *Mayday: Eisenhower, Khrushchev and the U-2 Affair* (1986) and William Burrows's *Deep Black: Space Espionage and National Security* (1987). Although well written and generally accurate, these books suffer from their authors' lack of access to classified official documentation. By drawing upon the considerable amount of formerly classified data on the U-2 now available to the public, Beschloss has provided an accurate and insightful depiction of the U-2 program in the context of the Eisenhower administration's overall foreign policy, but his book does contain errors and omissions on some aspects of the U-2 program. Burrows's broader work suffers more from the lack of classified documentation, particularly in the OXCART/SR-71 section, which concentrates on the Air Force aircraft because little information about the Agency's aircraft has been officially declassified and released.

After the present study of the Agency's overhead reconnaissance projects was completed, a new book on the U-2 was published in the United Kingdom. Chris Pocock's *Dragon Lady: The History of the U-2 Spyplane* is by far the most accurate unclassified account of the U-2 program. Pocock has been able to compensate for his lack of access to classified documents by interviewing many former participants in the program, especially former pilots. Pocock is also quite familiar with aircraft itself, for he had worked with Jay Miller on the latter's excellent technical study of the U-2: *Lockheed U-2* (1983).

There has also been a classified official study of the U-2 and OXCART programs. In 1969 the Directorate of Science and Technology published a *History of the Office of Special Activities* by

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Helen Hill Kleyla and Robert D. O'Hern. This 16-volume Top Secret Codeword study of the Agency's reconnaissance aircraft provides a wealth of technical and operational information on the two projects but does not attempt to place them in their historical context. Without examining the international situation and bureaucratic pressures affecting the president and other key policymakers, however, it is impossible to understand the decisions that began, carried out, and ended the CIA's reconnaissance aircraft projects.

In preparing this study of CIA's overhead reconnaissance program, the authors drew on published sources, classified government documents, and interviews with key participants from the CIA, Air Force, contractors, scientific advisory committees, and the Eisenhower administration. The interviews were particularly important for piecing together the story of how the CIA became involved in overhead reconnaissance in the first place because Agency documentation on the prehistory of the U-2 project is very sketchy and there are no accurate published accounts. Research on the period of actual reconnaissance operations included the records of the Director of Central Intelligence, the Office of Special Activities in the Directorate of Science and Technology, and the Intelligence Community Staff, along with documents from the Eisenhower Presidential Library in Abilene, Kansas, and additional interviews.

Both authors are grateful for the assistance they have received from many individuals who played important roles in the events they recount. Without their help a good deal of this story could never have become known. The assistance of Agency records management officers in the search for documents on the overhead reconnaissance program is also greatly appreciated.

To ensure that this study of the Agency's involvement in overhead reconnaissance reaches the widest possible audience, the authors have kept it at the Secret classification level. As a result, some aspects of the overhead reconnaissance program, particularly those involving satellites and related interagency agreements, have had to be described in very general terms. The omission of such information is not significant for this book, which focuses on the Agency's reconnaissance aircraft. ◆

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Searching for a System

THE NEED FOR HIGH-ALTITUDE RECONNAISSANCE

For centuries, soldiers in wartime have sought the highest ground or structure in order to get a better view of the enemy. At first it was tall trees, then church steeples and bell towers. By the time of the American Civil War and the Franco-Prussian War of 1870-71, observers were using hot-air balloons to get up in the sky for a better view of the "other side of the hill." With the advent of dry film, it became possible to carry cameras into the sky to record the disposition of enemy troops and emplacements. Indeed, photoreconnaissance proved so valuable during World War I that in 1938 Gen. Werner von Fritsch, Commander in Chief of the German Army, predicted: "The nation with the best aerial reconnaissance facilities will win the next war." [1]

By World War II, lenses, films, and cameras had undergone many improvements, as had the airplane, which could fly higher and faster than the primitive craft of World War I. Now it was possible to use photoreconnaissance to obtain information about potential targets before a bombing raid and to assess the effectiveness of the bombing afterward.

Peacetime applications of high-altitude photography at first included only photomapping and surveying for transcontinental highways and mineral and oil exploration. There was little thought given to using photography for peacetime espionage until after World War II, when the Iron Curtain rang down and cut off most forms of communication between the Soviet Bloc of nations and the rest of the world.

[1] Roy M. Stanley II, *World War II Photo Intelligence* (New York: Scribners, 1981), p. 16.

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By 1949 the Soviet Union and the states of Eastern Europe had been effectively curtained off from the outside world, and the Soviet military carried out its planning, production, and deployment activities with the utmost secrecy. All Soviet strategic capabilities—bomber forces, ballistic missiles, submarine forces, and nuclear weapons plants—were concealed from outside observation. The Soviet air defense system, a prime consideration in determining US retaliatory policies, was also largely an unknown factor.

Tight security along the Soviet Bloc borders severely curtailed the movement of human intelligence sources. In addition, the Soviet Union made its conventional means of communication—telephone, telegraph, and radio-telephone—more secure, thereby greatly reducing the intelligence available from these sources. The stringent security measures imposed by the Communist Bloc nations effectively blunted traditional methods for gathering intelligence: secret agents using covert means to communicate intelligence, travelers to and from target areas who could be asked to keep their eyes open and report their observations later, wiretaps and other eavesdropping methods, and postal intercepts. Indeed, the entire panoply of intelligence tradecraft seemed ineffective against the Soviet Bloc, and no other methods were available.

Early Postwar Aerial Reconnaissance

Although at the end of World War II the United States had captured large quantities of German photos and documents on the Soviet Union, this material was rapidly becoming outdated. The main source of current intelligence on the Soviet Union's military installations was interrogation of prisoners of war returning from Soviet captivity. To obtain information about Soviet scientific progress, the intelligence community established several programs to debrief German scientists who had been taken to the Soviet Union after the end of the war but were now being allowed to leave.[2]

[2] At the end of World War II, the British had established Project DRAGON to gain information from German scientists who had worked on the Peenemunde rocket project, and the term DRAGON later was used to refer to individuals possessing scientific or technical information. In 1948 the US Air Force set up Project WRINGER in Germany to gather intelligence on the Soviet Union from defectors and refugees; this project was later absorbed into the combined armed forces/CIA Defector Reception Center (DRC), which began operations in February 1951. In October 1951, a separate organization to exploit individuals with scientific or technical backgrounds, especially German scientists who had worked inside the Soviet Union, came into existence. This organization was known as the Returnee Exploitation Group (REG) and was located in Frankfurt. By 1958 the flow of scientists was so small that the REG merged with the DRC. [redacted] *The Defector Reception Center Germany, 1951 to 1967*, Clandestine Service Historical Series CSHP-41 (CIA: History Staff, 1972), pp. 5-6, 29-30 (S).

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Interrogation of returning Germans offered only fragmentary information, and this source could not be expected to last much longer. As a result, in the late 1940s, the US Air Force and Navy began trying to obtain aerial photography of the Soviet Union. The main Air Force effort involved Boeing RB-47 aircraft (the reconnaissance version of the B-47 jet-propelled medium bomber) equipped with cameras and electronic "ferret" equipment that enabled aircrews to detect tracking by Soviet radars. At that time the Soviet Union had not yet completely ringed its borders with radars, and much of the interior also lacked radar coverage. Thus, when the RB-47s found a gap in the air-warning network, they would dart inland to take photographs of any accessible targets. These "penetration photography" flights (called SENSINT—sensitive intelligence—missions) occurred along the northern and Pacific coasts of Russia. One RB-47 aircraft even managed to fly 450 miles inland and photograph the city of Igarka in Siberia. Such intrusions brought protests from Moscow but no Soviet military response.[3]

In 1950 there was a major change in Soviet policy. Air defense units became very aggressive in defending their airspace, attacking all aircraft that came near the borders of the Soviet Union. On 8 April 1950, Soviet fighters shot down a US Navy Privateer patrol aircraft over the Baltic Sea. Following the outbreak of the Korean war in June 1950, the Soviet Union extended its "severe air defense policy" to the Far East. In the autumn of 1951, Soviet aircraft downed a twin-engine US Navy Neptune bomber near Vladivostok. An RB-29 lost in the Sea of Japan on 13 June 1952 was probably also a victim of Soviet fighters. The United States was not the only country affected by the new aggressive Soviet air defense policy; Britain and Turkey also reported attacks on their planes.[4]

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[3] A. L. George, *Case Studies of Actual and Alleged Overflights*, 1930-1953, Rand Study RM-1349 (Santa Monica: Rand, 1955) (S). Arthur S. Lundahl and Dino Brugioni, interview by Donald E. Welzenbach, tape recording, Washington, DC, 14 December 1983 (TS Codeword). Recordings, transcripts, and notes for the interviews conducted for this study are on file at the DCI History Staff.

[4] Jeffrey Richelson states on page 121 of *American Espionage and the Soviet Target* (New York: Morrow, 1987) that "the first recorded attack by Soviet air defense forces, in this case fighters, occurred on October 22, 1949." In this incident, however, Soviet fighters did not attempt to hit the US aircraft; they merely fired warning shots. The real change in Soviet policy did not occur until the April 1950 downing of the US Navy Privateer. George, *Case Studies*, pp. 1-2, 6, 9-16 (S).

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The Soviet Union's air defense policy became even more aggressive in August 1952, when its reconnaissance aircraft began violating Japanese airspace over Hokkaido, the northernmost Japanese home island. Two months later, on 7 October 1952, Soviet fighter aircraft stalked and shot down a US RB-29 flying over Hokkaido. Aerial reconnaissance of the Soviet Union and surrounding areas had become a very dangerous business.

Despite the growing risks associated with aerial reconnaissance of the Soviet Bloc, senior US officials strongly believed that such missions were necessary. The lack of information about the Soviet Union, coupled with the perception that it was an aggressive nation determined to expand its borders—a perception that had been greatly strengthened by the Soviet-backed North Korean invasion of South Korea in June 1950—increased US determination to obtain information about Soviet intentions and capabilities and thus reduce the danger of being surprised by a Soviet attack.

New Approaches to Photoreconnaissance

While existing Navy and Air Force aircraft were flying their risky reconnaissance missions over the Soviet Union, the United States began planning for a more systematic and less dangerous approach using new technology. One of the leading advocates of the need for new, high-altitude reconnaissance aircraft was Richard S. Leghorn, a Massachusetts Institute of Technology graduate and employee of Eastman Kodak who had commanded the Army Air Forces' 67th Reconnaissance Group in Europe during World War II. After the war he returned to Kodak but maintained his interest in photoreconnaissance. Leghorn strongly believed in the need for what he called pre-D-day reconnaissance, that is, reconnaissance of a potential enemy before the outbreak of actual hostilities, in contrast to combat reconnaissance in wartime. In papers presented in 1946 and 1948, Leghorn argued that the United States needed to develop such a capability, which would require high-altitude aircraft and high-resolution cameras. The outbreak of the Korean war gave Leghorn an opportunity to put his ideas into effect. Recalled to active duty by the Air Force, Lieutenant Colonel Leghorn became the head of the Reconnaissance Systems Branch of the Wright Air Development Command at Dayton, Ohio, in April 1951.[5]

[5] Richard S. Leghorn, interview by Donald E. Welzenbach, tape recording, Washington, DC, 19 August 1985 (S).

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In Leghorn's view, altitude was the key to success for overhead reconnaissance. Since the best Soviet interceptor at that time, the MIG-17, had to struggle to reach 45,000 feet,[6] Leghorn reasoned that an aircraft that could exceed 60,000 feet would be safe from Soviet fighters. Recognizing that the fastest way to produce a high-altitude reconnaissance aircraft was to modify an existing aircraft, he began looking for the highest flying aircraft available in the Free World. This search soon led him to a British twin-engine medium bomber—the Canberra—built by the English Electric Company. The Canberra had made its first flight in May 1949. Its speed of 469 knots (870 kilometers per hour) and its service ceiling of 48,000 feet made the Canberra a natural choice for high-altitude reconnaissance work. The Royal Air Force quickly developed a reconnaissance version of the Canberra, the PR3 (the PR stood for photoreconnaissance), which began flying in March 1950.[7]

Richard S. Leghorn

At Leghorn's insistence, the Wright Air Development Command invited English Electric representatives to Dayton in the summer of 1951 to help find ways to make the Canberra fly even higher. By this time the Air Force had already adopted the bomber version of the Canberra, which the Glenn L. Martin Aircraft Company was to produce under license as the B-57 medium bomber. Leghorn and his English Electric colleagues designed a new Canberra configuration with very long high-lift wings, new Rolls-Royce Avon-109 engines, a solitary pilot, and an airframe that was stressed to less than the standard military specifications. Leghorn calculated that a Canberra so equipped might reach 63,000 feet early in a long mission and as high as 67,000 feet as the declining fuel supply lightened the aircraft. He believed that such a modified Canberra could penetrate the Soviet Union and China for a radius of 800 miles from bases around their periphery and photograph up to 85 percent of the intelligence targets in those countries.

Leghorn persuaded his superiors to submit his suggestion to the Pentagon for funding. He had not, however, cleared his idea with the Air Research and Development Command, whose reconnaissance

[6] 13,716 meters. To avoid giving a false impression of extremely precise measurements, original English measuring system figures in round numbers have not been converted to the metric system. To convert feet to meters, multiply by 0.3048. To convert airspeeds in knots (nautical miles per hour) to kilometers per hour, multiply by 1.85.

[7] Dick van der Aart, *Aerial Espionage, Secret Intelligence Flights by East and West* (Shrewsbury, England: Airlife Publishing, 1985), p. 18.

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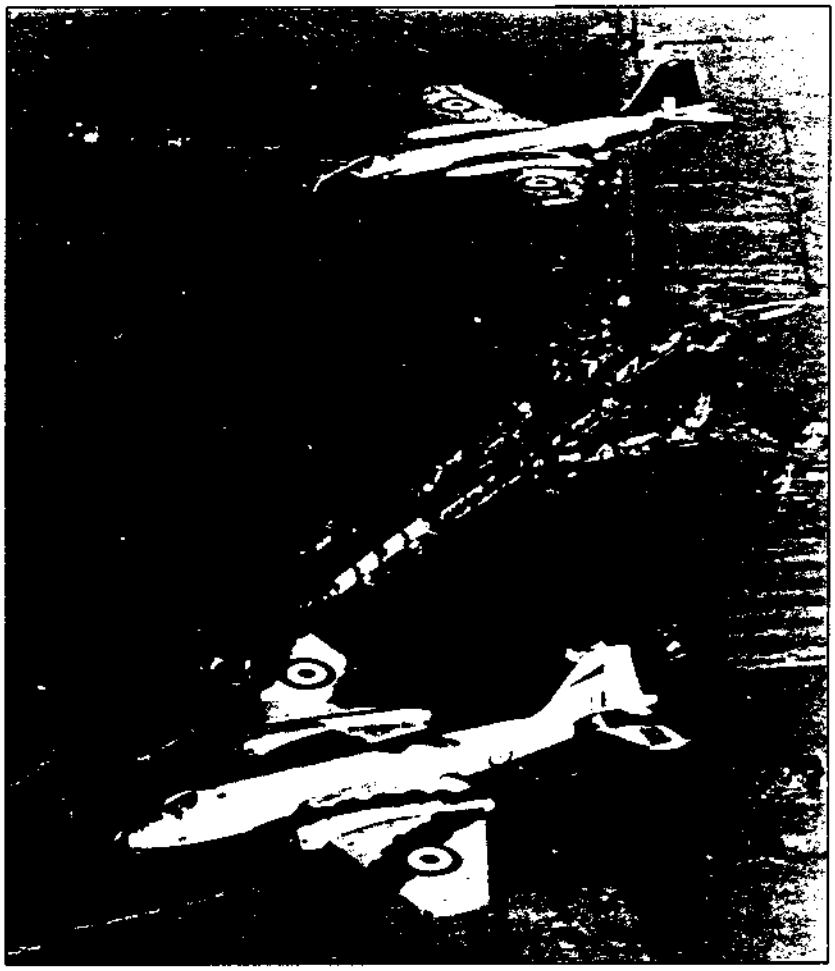

RAF Canberra Mark-PR3

division in Baltimore, headed by Lt. Col. Joseph J. Pellegrini, had to approve all new reconnaissance aircraft designs. Pellegrini's unit reviewed Leghorn's design and ordered extensive modifications. According to Leghorn, Pellegrini was not interested in a special-purpose aircraft that was only suitable for covert peacetime reconnaissance missions, for he believed that all Air Force reconnaissance aircraft should be capable of operating under wartime conditions. Pellegrini therefore insisted that Leghorn's design meet the specifications for combat aircraft, which required heavily stressed airframes, armor plate, and other apparatus that made an aircraft too heavy to reach the higher altitudes necessary for safe overflights of the Soviet Bloc. The final result of Leghorn's concept after its alteration by Pellegrini's staff was the RB-57D in 1955, whose maximum altitude

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was only 64,000 feet. Meanwhile Leghorn, frustrated by the rejection of his original concept, had transferred to the Pentagon in early 1952 to work for Col. Bernard A. Schriever, Assistant for Development Planning to the Air Force's Deputy Chief of Staff for Development.[8]

In his new position Leghorn became responsible for planning the Air Force's reconnaissance needs for the next decade. He worked closely with Charles F. (Bud) Wienberg—a colleague who had followed him from Wright Field—and Eugene P. Kiefer, a Notre Dame–educated aeronautical engineer who had designed reconnaissance aircraft at the Wright Air Development Center during World War II. All three of these reconnaissance experts believed that the Air Force should emphasize high-altitude photoreconnaissance.

Underlying their advocacy of high-altitude photoreconnaissance was the belief that Soviet radars would not be able to track aircraft flying above 65,000 feet. This assumption was based on the fact that the Soviet Union used American-built radar sets that had been supplied under Lend-Lease during World War II. Although the SCR-584 (Signal Corps Radio) target-tracking radar could track targets up to 90,000 feet, its high power consumption burned out a key component quickly, so this radar was normally not turned on until an early warning radar had detected a target. The SCR-270 early warning radar could be left on for much longer periods and had a greater horizontal range (approximately 120 miles) but was limited by the curvature of the earth to a maximum altitude of 40,000 feet. As a result, Leghorn, Kiefer, and Wienberg believed that an aircraft that could ascend to 65,000 feet before entering an area being swept by the early warning radar would go undetected, because the target-tracking radars would not be activated.[9]

The problem with this assumption was that the Soviet Union, unlike Britain and the United States, had continued to improve radar technology after the end of World War II. Even after evidence of improved Soviet radar capabilities became available, however, many advocates of high-altitude overflight continued to believe that aircraft flying above 65,000 feet were safe from detection by Soviet radars.

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[8] Leghorn interview (S).

[9] Ivan A. Getting, interview by Donald E. Welzenbach, Los Angeles, 28 August 1988 (U).

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The Air Force Search for a New Reconnaissance Aircraft

With interest in high-altitude reconnaissance growing, several Air Force agencies began to develop an aircraft to conduct such missions. In September 1952, the Air Research and Development Command gave the Martin Aircraft Company a contract to examine the high-altitude potential of the B-57 by modifying a single aircraft to give it long, high-lift wings and the American version of the new Rolls-Royce Avon-109 engine. These were the modifications that Richard Leghorn had suggested during the previous year.[10]

At about the same time, another Air Force office, the Wright Air Development Command (WADC) in Dayton, Ohio, was also examining ways to achieve sustained flight at high altitudes. Working with two German aeronautical experts—Woldemar Voigt and Richard Vogt—who had come to the United States after World War II, Air Force Maj. John Seaberg advocated the development of a new aircraft that would combine the high-altitude performance of the latest turbojet engines with high-efficiency wings in order to reach ultrahigh altitudes. Seaberg, an aeronautical engineer for the Chance Vought Corporation until his recall to active duty during the Korean war, was serving as assistant chief of the New Developments Office of WADC's Bombardment Branch.

By March 1953, Seaberg had expanded his ideas for a high-altitude aircraft into a complete request for proposal for "an aircraft weapon system having an operational radius of 1,500 nm [nautical miles] and capable of conducting pre- and post-strike reconnaissance missions during daylight, good visibility conditions." The requirement stated that such an aircraft must have an optimum subsonic cruise speed at altitudes of 70,000 feet or higher over the target, carry a payload of 100 to 700 pounds of reconnaissance equipment, and have a crew of one.[11]

The Wright Air Development Command decided not to seek proposals from major airframe manufacturers on the grounds that a smaller company would give the new project a higher priority and

[10] Philip G. Strong, Chief, Operations Staff, OSI, Memorandum for the Record, "Reconnaissance Capabilities," 21 August 1953, OSI records (S).

[11] Jay Miller, *Lockheed U-2*, Aerograph 3 (Austin, Texas: Aerofax, 1983), p. 10.

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produce a better aircraft more quickly. In July 1953, the Bell Aircraft Corporation of Buffalo, New York, and the Fairchild Engine and Airplane Corporation of Hagerstown, Maryland, received study contracts to develop an entirely new high-altitude reconnaissance aircraft. In addition, the Glenn L. Martin Company of Baltimore was asked to examine the possibility of improving the already exceptional high-altitude performance of the B-57 Canberra. By January 1954 all three firms had submitted their proposals. Fairchild's entry was a single-engine plane known as M-195, which had a maximum altitude potential of 67,200 feet; Bell's was a twin-engine craft called the Model 67 (later the X-16), which had a maximum altitude of 69,500 feet; and Martin's design was a big-wing version of the B-57 called the Model 294, which was to cruise at 64,000 feet. In March 1954, Seaberg and other engineers at Wright Field, having evaluated the three contending designs, recommended the adoption of both the Martin and Bell proposals. They considered Martin's version of the B-57 an interim project that could be completed and deployed rapidly while the more advanced concept from Bell was still being developed.[12]

Air Force headquarters soon approved Martin's proposal to modify the B-57 and was very much interested in the Bell design. But word of the competition for a new reconnaissance airplane had reached another aircraft manufacturer, the Lockheed Aircraft Corporation, which submitted an unsolicited design.

Lockheed had first become aware of the reconnaissance aircraft competition in the fall of 1953. John H. (Jack) Carter, who had recently retired from the Air Force to become the assistant director of Lockheed's Advanced Development Program, was in the Pentagon on business and dropped in to see Eugene P. Kiefer, an old friend and colleague from the Air Force's Office of Development Planning (more commonly known as AFDAP from its Air Force office symbol). Kiefer told Carter about the competition for a high-flying aircraft and expressed the opinion that the Air Force was going about the search in the wrong way by requiring the new aircraft to be suitable for both strategic and tactical reconnaissance.

Immediately after returning to California, Carter proposed to Lockheed Vice President L. Eugene Root (previously the top civilian official in the Air Force's Office of Development Planning) that

[12] The request for proposal, known as "Design Study Requirements, Identification No. 53WC-16507," has been reprinted in Miller, *Lockheed U-2*, pp. 10-11.

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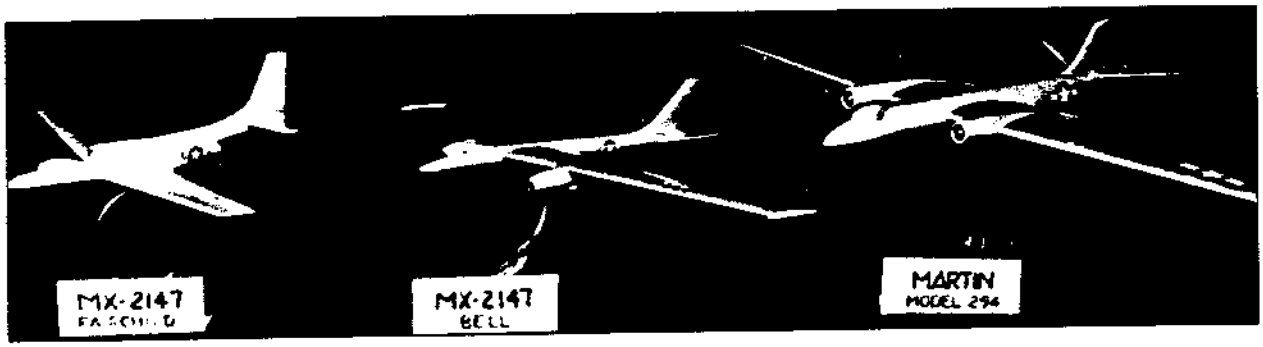

Designs for the Air Force competition for a high-altitude reconnaissance aircraft

Lockheed also submit a design. Carter noted that the proposed aircraft would have to reach altitudes of between 65,000 and 70,000 feet and correctly forecast, "If extreme altitude performance can be realized in a practical aircraft at speeds in the vicinity of Mach 0.8, it should be capable of avoiding virtually all Russian defenses until about 1960." Carter added, "To achieve these characteristics in an aircraft which will have a reasonably useful operational life during the period before 1960 will, of course, require very strenuous efforts and extraordinary procedures, as well as nonstandard design philosophy." Some of the "nonstandard" design characteristics suggested by Carter were the elimination of landing gear, the disregard of military specifications, and the use of very low load factors. Carter's memorandum closed with a warning that time was of the essence: "In order that this special aircraft can have a reasonably long and useful life, it is obvious that its development must be greatly accelerated beyond that considered normal." [13]

Lockheed's senior officials approved Carter's proposal, and early in 1954 the corporation's best aircraft designer—Clarence L. (Kelly) Johnson—began working on the project, then known as the CL-282 but later to become famous under its Air Force designator—the U-2. Already one of the world's leading aeronautical engineers, Kelly Johnson had many successful military and civilian designs to his credit, including the P-38, P-80, F-104, and Constellation. Johnson quickly came up with a radical design based upon the fuselage of the F-104 jet fighter but incorporating a high-aspect-ratio sailplane wing. To save weight and thereby increase the aircraft's altitude, Johnson decided to stress the airframe to only 2.5 units of

[13] Miller, *Lockheed U-2*, p. 12.

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gravity (g's) instead of the military specification strength of 5.33 g's. For the power plant he selected the General Electric J73/GE-3 nonafterburning turbojet engine with 9,300 pounds of thrust (this was the same engine he had chosen for the F-104, which had been the basis for the U-2 design).[14] Many of the CL-282's design features were adapted from gliders. Thus, the wings and tail were detachable. Instead of a conventional landing gear, Johnson proposed using two skis and a reinforced belly rib for landing—a common sailplane technique—and a jettisonable wheeled dolly for takeoff. Other features included an unpressurized cockpit and a 15-cubic-foot payload area that could accommodate 600 pounds of sensors. The CL-282's maximum altitude would be just over 70,000 feet with a 2, 000-mile range. Essentially, Kelly Johnson had designed a jet-propelled glider.[15]

Kelly Johnson

Early in March 1954, Kelly Johnson submitted the CL-282 design to Brig. Gen. Bernard A. Schriever's Office of Development Planning. Eugene Kiefer and Bud Wienberg studied the design and recommended it to General Schriever, who then asked Lockheed to submit a specific proposal. In early April, Kelly Johnson presented a full description of the CL-282 and a proposal for the construction and maintenance of 30 aircraft to a group of senior Pentagon officials that included Schriever's superior, Lt. Gen. Donald L. Putt, Deputy Chief of Staff for Development, and Trevor N. Gardner, Special Assistant for Research and Development to the Secretary of the Air Force. Afterward Kelly Johnson noted that the civilian officials were very much interested in his design but the generals were not.[16]

The CL-282 design was also presented to the commander of the Strategic Air Command (SAC), Gen. Curtis E. LeMay, in early April by Eugene Kiefer, Bud Wienberg, and Burton Klein from the Office of

[14] Lockheed Corporation, "Strategic Reconnaissance and Intelligence," Development Planning Note #1, 30 November 1953 (U).

[15] Miller, *Lockheed U-2*, p. 12. For more details on Kelly Johnson's original proposal, see "Profile of CL-282 High Altitude Aircraft prepared by Lockheed Aircraft Corporation, 5 March 1954" in Helen H. Kleyla and Robert D. O'Hern, *History of the Office of Special Activities*, DS&T, Directorate of Science and Technology Historical Series OSA-1, 16 vols. (CIA: DS&T, 1969), chap. 1, annex 2 (TS Codeword). The 16 volumes of this history contain 20 chapters, each paginated separately. Future references will be shortened to *OSA History*, followed by the relevant chapter and page numbers.

[16] Kelly Johnson Papers, "Log for Project X," April 1954, Lockheed Corporation, Advanced Development Projects Division, Burbank, California.

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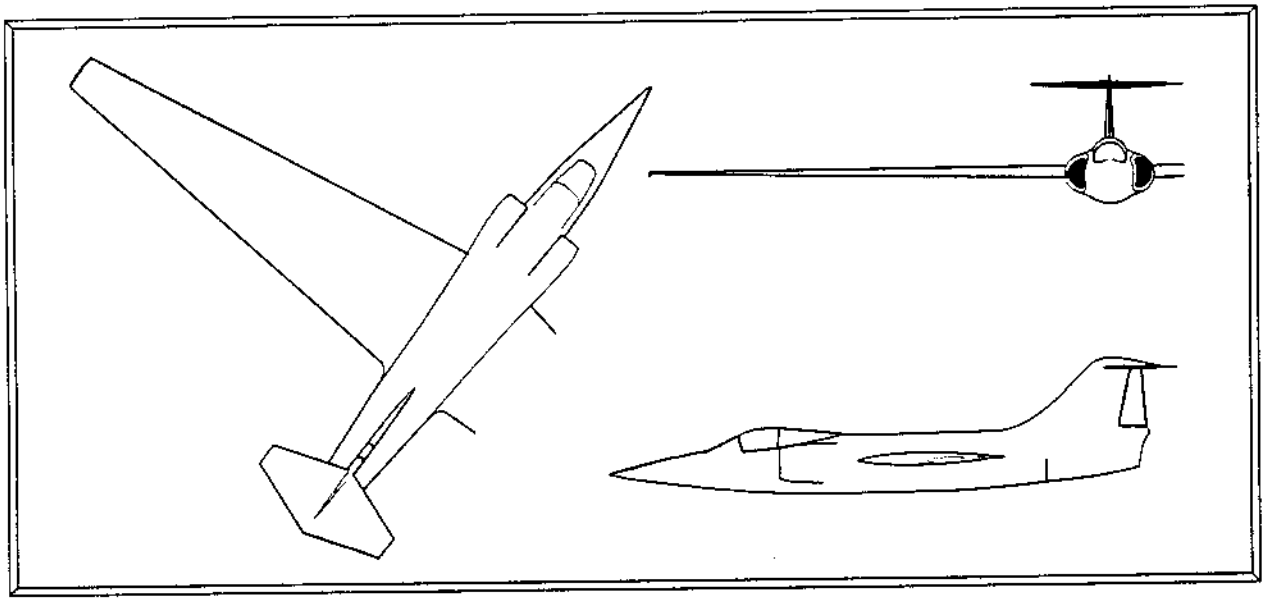

The Lockheed CL-282

Development Planning. According to Wienberg, General LeMay stood up halfway through the briefing, took his cigar out of his mouth, and told the briefers that, if he wanted high-altitude photographs, he would put cameras in his B-36 bombers and added that he was not interested in a plane that had no wheels or guns. The general then left the room, remarking that the whole business was a waste of his time.[17]

Meanwhile, the CL-282 design proceeded through the Air Force development channels and reached Major Seaberg at the Wright Air Development Command in mid-May. Seaberg and his colleagues carefully evaluated the Lockheed submission and finally rejected it in early June. One of their main reasons for doing so was Kelly Johnson's choice of the unproven General Electric J73 engine. The engineers at Wright Field considered the Pratt and Whitney J57 to be the most powerful engine available, and the designs from Fairchild, Martin, and Bell all incorporated this engine. The absence of conventional landing gear was also a perceived shortcoming of the Lockheed design.[18]

Another factor in the rejection of Kelly Johnson's submission was the Air Force preference for multiengine aircraft. Air Force reconnaissance experts had gained their practical experience during

[17] C. F. Wienberg, telephone conversation with Donald E. Welzenbach, 23 July 1988 (U).

[18] Miller, *Lockheed U-2*, p. 12.

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World War II in multiengine bombers. In addition, aerial photography experts in the late 1940s and early 1950s emphasized focal length as the primary factor in reconnaissance photography and, therefore, preferred large aircraft capable of accommodating long focal-length cameras. This preference reached an extreme in the early 1950s with the development of the cumbersome 240-inch Boston camera, a device so large that the YC-97 Boeing Stratocruiser that carried it had to be partially disassembled before the camera could be installed. Finally, there was the feeling shared by many Air Force officers that two engines are always better than one because, if one fails, there is a spare to get the aircraft back to base. In reality, however, aviation records show that single-engine aircraft have always been more reliable than multiengine planes. Furthermore, a high-altitude reconnaissance aircraft deep in enemy territory would have little chance of returning if one of the engines failed, forcing the aircraft to descend.[19]

On 7 June 1954, Kelly Johnson received a letter from the Air Force rejecting the CL-282 proposal because it had only one engine and was too unusual and because the Air Force was already committed to the modification of the Martin B-57.[20] By this time, the Air Force had also selected the Bell X-16; the formal contract calling for 28 aircraft was signed in September. Despite the Air Force's selection of the X-16, Lockheed continued to work on the CL-282 and began seeking new sources of support for the aircraft.

Lockheed CL-282 Supporters and the CIA

Although the Air Force's uniformed hierarchy had decided in favor of the Bell and Martin aircraft, some high-level civilian officials continued to favor the Lockheed design. The most prominent proponent of the Lockheed proposal was Trevor Gardner, Special Assistant for Research and Development to Air Force Secretary Harold E. Talbott. Gardner had many contacts in west coast aeronautical circles because before coming to Washington he had headed the Hycon Manufacturing Company, which made aerial cameras in Pasadena, California. He had been present at Kelly Johnson's presentation on the CL-282 at the Pentagon in early April 1954 and believed that this

[19] Allen F. Donovan, interview by Donald E. Welzenbach, Corona del Mar, California, 20 May 1985 (S).

[20] Johnson, "Log for Project X," 7 June 1954.

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Trevor Gardner

design showed the most promise for reconnaissance of the Soviet Union. This belief was shared by Gardner's special assistant, Frederick Ayer, Jr., and Garrison Norton, an adviser to Secretary Talbott.[21]

According to Norton, Gardner tried to interest SAC commander LeMay in the Lockheed aircraft because Gardner envisioned it primarily as a collector of strategic, rather than tactical, intelligence. But General LeMay had already shown that he was not interested in an unarmed aircraft. Gardner, Ayer, and Norton then decided to seek CIA support for the high-flying aircraft. At that time the Agency's official involvement in overhead reconnaissance was limited to advising the Air Force on the problems of launching large camera-carrying balloons for reconnaissance flights over hostile territory (for the details of this program, see chapter 2). The Chief of the Operations Staff in the Office of Scientific Intelligence, Philip G. Strong, however, served on several Air Force advisory boards and kept himself well informed on developments in reconnaissance aircraft.[22]

Gardner, Norton, and Ayer met with Strong in the Pentagon on 12 May 1954, six days before the Wright Air Development Command began to evaluate the Lockheed proposal. Gardner described Kelly Johnson's proposal and showed the drawings to Strong. After this meeting, Strong summarized his impressions of the Air Force's search for a high-altitude reconnaissance aircraft:

> *Proposals for special reconnaissance aircraft have been received in the Air Staff from Lockheed, Fairchild, and Bell. . . . The Lockheed proposal is considered to be the best. It has been given the type designation of CL-282 and in many respects is a jet-powered glider based essentially on the Lockheed Day Fighter XF-104. It is primarily subsonic but can attain transonic speeds over the target with a consequent loss of range. With an altitude of 73,000 feet over the target it has a combat radius of 1,400 nautical miles. . . . The CL-282 can be manufactured*

[21] Garrison Norton, interview by Donald E. Welzenbach, tape recording, Washington, DC, 23 May 1983 (S); Michael R. Beschloss, *Mayday: Eisenhower, Khrushchev and the U-2 Affair* (New York: Harper & Row, 1986), p. 79.

[22] Strong was a colonel in the Marine Corps Reserve and often used that title even though he was not on active duty. He later advanced to the rank of brigadier general in the reserve. For Strong's contacts with senior Air Force officials concerning the CL-282, see the Norton interview (S).

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mainly with XF-104 jigs and designs. . . . The prototype of this plane can be produced within a year from the date of order. Five planes could be delivered for operations within two years.

The Bell proposal is a more conventional aircraft having normal landing gear. As a result, its maximum altitude over target is 69,500 feet and the speed and range are not as good as the Lockheed CL-282.[23]

Philip Strong

Gardner's enthusiasm for the CL-282 had given Strong the false impression that most Air Force officials supported the Lockheed design. In reality, the Air Force's uniformed hierarchy was in the process of choosing the modified version of the Martin B-57 and the new Bell X-16 to meet future reconnaissance needs.

During their meeting with Strong, Trevor Gardner, Frederick Ayer, and Garrison Norton explained that they favored the CL-282 because it gave promise of flying higher than the other designs and because at maximum altitude its smaller radar cross section might make it invisible to existing Soviet radars. The three officials asked Strong if the CIA would be interested in such an aircraft. Strong promised to talk to the Director of Central Intelligence's newly hired Special Assistant for Planning and Coordination, Richard M. Bissell, Jr., about possible Agency interest in the CL-282.[24]

Richard Bissell had already had an active and varied career before he joined the CIA. A graduate of Groton and Yale, Bissell studied at the London School of Economics for a year and then completed a doctorate at Yale in 1939. He taught economics, first at Yale and then from 1942 at the Massachusetts Institute of Technology (MIT), where he became a full professor in 1948. During World War II, Bissell had managed American shipping as executive officer of the Combined Shipping Adjustment Board. After the war, he served as deputy director of the Marshall Plan from 1948 until the end of 1951, when he became a staff member of the Ford Foundation. His first association with the Agency came in late 1953, when he undertook a contract study of possible responses the United

[23] Philip G. Strong, Memorandum for the Record, "Special Aircraft for Penetration Photo Reconnaissance," 12 May 1954, OSI records (now in OSWR), job 80R-01424, box 1 (S).

[24] Karl H. Weber, *The Office of Scientific Intelligence, 1949-68*, Directorate of Science and Technology Historical Series OSI-1 (CIA: DS&T, 1972), vol. 1, tab A, pp. 16-17 (TS Codeword).

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Richard M. Bissell, Jr.

States might use against the Soviet Bloc in the event of another uprising such as the East Berlin riots of June 1953. Bissell quickly concluded that there was not much hope for clandestine operations against Bloc nations. As he remarked later: "I know I emerged from that exercise feeling that very little could be done." This belief would later make Bissell a leading advocate of technical rather than human means of intelligence collection.[25]

Bissell joined the Agency in late January 1954 and soon became involved in coordination for the operation aimed at overthrowing Guatemalan President Jacobo Arbenz. He was, therefore very preoccupied when Philip Strong approached him in mid-May 1954 with the concept of the proposed spyplane from Lockheed. Bissell said that the idea had merit and told Strong to get some topflight scientists to advise on the matter. Afterward he returned to the final planning for the Guatemalan operation and promptly forgot about the CL-282.[26]

Meanwhile, Strong went about drumming up support for high-altitude overflight. In May 1954 he persuaded DCI Allen W. Dulles to ask the Air Force to take the initiative in gaining approval for an overflight of the Soviet guided-missile test range at Kapustin Yar. Dulles's memorandum did not mention the CL-282 or any of the other proposed high-altitude aircraft. CIA and Air Force officials met on several occasions to explore the overflight proposal, which the Air Force finally turned down in October 1954.[27]

Although Allen Dulles was willing to support an Air Force overflight of the Soviet Union, he was not enthusiastic about the CIA undertaking such a project. Few details about Dulles's precise attitude toward the proposed Lockheed reconnaissance aircraft are available, but many who knew him believe that he did not want the CIA to become involved in projects that belonged to the military, and the Lockheed CL-282 had been designed for an Air Force requirement.

[25] Thomas Powers, *The Man Who Kept the Secrets: Richard Helms and the CIA* (New York: Alfred A. Knopf, 1979), p. 79; Beschloss, *Mayday*, pp. 86-89.

[26] Memorandum for H. Marshall Chadwell, Assistant Director/Scientific Intelligence, from Chief, Support Staff, OSI, "Review of OSA Activities Concerned with Scientific and Technical Collection Techniques," 13 May 1955, p. 6, OSI (OSWR) records, job 80R-01424, box 1 (S); Richard M. Bissell, Jr., interview by Donald E. Welzenbach, tape recording, Farmington, Connecticut, 8 November 1984 (S).

[27] Memorandum for Richard M. Bissell, Special Assistant to the Director for Planning and Coordination, from Philip G. Strong, Chief, Operations Staff, OSI, "Overflight of Kapustin Yar," 15 October 1954, OSI (OSWR) records, job 80R-01424, box 1 (TS, downgraded to S).

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Moreover, high-altitude reconnaissance of the Soviet Union did not fit well into Allen Dulles's perception of the proper role of an intelligence agency. He tended to favor the classical form of espionage, which relied on agents rather than technology.[28]

DCI Allen W. Dulles

At this point, the summer of 1954, Lockheed's CL-282 proposal still lacked official support. Although the design had strong backers among some Air Force civilians and CIA officials, the key decisionmakers at both Air Force and CIA remained unconvinced. To make Kelly Johnson's revolutionary design a reality, one additional source of support was necessary: prominent scientists serving on government advisory boards.

SCIENTISTS AND OVERHEAD RECONNAISSANCE

Scientists and engineers from universities and private industry had played a major role in advising the government on technical matters during World War II. At the end of the war, most of the scientific advisory boards were disbanded, but within a few years the growing tensions of the Cold War again led government agencies to seek scientific advice and assistance. In 1947 the Air Force established a Scientific Advisory Board, which met periodically to discuss topics of current interest and advise the Air Force on the potential usefulness of new technologies. The following year the Office of Defense Mobilization established the Scientific Advisory Committee, but the Truman administration made little use of this new advisory body.[29]

The BEACON HILL Report

In 1951 the Air Force sought even more assistance from scientists because the Strategic Air Command's requests for information about targets behind the Iron Curtain could not be filled. To look for new ways of conducting reconnaissance against the Soviet Bloc, the Air Force's Deputy Chief of Staff for Development, Maj. Gen. Gordon P. Saville, added 15 reconnaissance experts to an existing project on air

[28] Powers, *Man Who Kept the Secrets*, pp. 103-104; Edwin H. Land, interview by Donald E. Welzenbach, tape recording, Cambridge, Massachusetts, 17 and 20 September 1984 (TS Codeword); Robert Amory, Jr., interview by Donald E. Welzenbach and Gregory W. Pedlow, Washington, DC, 22 April 1987 (S).

[29] For more information on the Air Force's use of scientists see Thomas A. Sturm, *The USAF Scientific Advisory Board: Its First Twenty Years, 1944-1964* (Washington, DC: USAF Historical Office, 1967) (U).

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defense known as Project LINCOLN, then under way at the Massachusetts Institute of Technology. By the end of the year, these experts had assembled in Boston to begin their research. Their headquarters was located over a secretarial school on Beacon Hill, which soon became the codename for the reconnaissance project. The consultants were called the BEACON HILL Study Group.

The study group's chairman was Kodak physicist Carl F. P. Overhage, and its members included James G. Baker and Edward M. Purcell from Harvard; Saville Davis from the *Christian Science Monitor*; Allen F. Donovan from the Cornell Aeronautical Laboratory; Peter C. Goldmark from Columbia Broadcasting System Laboratories; Edwin H. Land, founder of the Polaroid Corporation; Stewart E. Miller of Bell Laboratories; Richard S. Perkin of the Perkin-Elmer Company; and Louis N. Ridenour of Ridenour Associates, Inc. The Wright Air Development Command sent Lt. Col. Richard Leghorn to serve as its liaison officer.[30]

During January and February 1952, the BEACON HILL Study Group traveled every weekend to various airbases, laboratories, and firms for briefings on the latest technology and projects. The panel members were particularly interested in new approaches to aerial reconnaissance, such as photography from high-flying aircraft and camera-carrying balloons. One of the more unusual (albeit unsuccessful) proposals examined by the panel was an "invisible" dirigible. This was to be a giant, almost flat-shaped airship with a blue-tinted, nonreflective coating; it would cruise at an altitude of 90,000 feet along the borders of the Soviet Union at very slow speeds while using a large lens to photograph targets of interest.[31]

After completing these briefings at the end of February 1952, the BEACON HILL Study Group returned to MIT, where the panel members spent the next three months writing a report detailing their recommendations for ways to improve the amount and quality of intelligence being gathered on the Soviet Bloc. Published as a classified

[30] USAF, Project LINCOLN, *BEACON HILL Report: Problems of Air Force Intelligence and Reconnaissance*, Massachusetts Institute of Technology, 15 June 1952, pp. v, xi; app. A (S, downgraded to C).

[31] Allen F. Donovan, telephone conversation with Donald E. Welzenbach, 21 June 1985 (U); James G. Baker, interview by Donald E. Welzenbach, tape recording, Washington, DC, 24 April 1985 (S).

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document on 15 June 1952, the *BEACON HILL Report* advocated radical approaches to obtain the information needed for national intelligence estimates. Its 14 chapters covered radar, radio, and photographic surveillance; examined the use of passive infrared and microwave reconnaissance; and discussed the development of advanced reconnaissance vehicles. One of the report's key recommendations called for the development of high-altitude reconnaissance aircraft:

> *We have reached a period in history when our peacetime knowledge of the capabilities, activities and dispositions of a potentially hostile nation is such as to demand that we supplement it with the maximum amount of information obtainable through aerial reconnaissance. To avoid political involvements, such aerial reconnaissance must be conducted either from vehicles flying in friendly airspace, or—a decision on this point permitting—from vehicles whose performance is such that they can operate in Soviet airspace with greatly reduced chances of detection or interception.*[32]

Concern About the Danger of a Soviet Surprise Attack

The Air Force did not begin to implement the ideas of the *BEACON HILL Report* until the summer of 1953. By this time interest in reconnaissance had increased after Dwight D. Eisenhower became President in January 1953 and soon expressed his dissatisfaction with the quality of the intelligence estimates of Soviet strategic capabilities and the paucity of reconnaissance on the Soviet Bloc.[33]

To President Eisenhower and many other US political and military leaders, the Soviet Union was a dangerous opponent that appeared to be moving inexorably toward a position of military parity with the United States. Particularly alarming was Soviet progress in the area of nuclear weapons. In the late summer of 1949, the Soviet Union had detonated an atomic bomb nearly three years sooner than US experts had predicted. Then in August 1953—a scant nine months after the first US test of a hydrogen bomb—the Soviet Union detonated a hydrogen bomb manufactured from lithium deuteride, a technology more advanced than the heavy water method used by US

[32] *BEACON HILL Report*, pp. 164, 167-168 (C). This section of the report was written by Allen Donovan and Louis Ridenour.

[33] Lundahl and Brugioni interview (TS Codeword).

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scientists. Thus, new and extremely powerful weapons were coming into the hands of a government whose actions greatly disturbed the leaders of the West. Only two months before the successful hydrogen bomb test, Soviet troops had crushed an uprising in East Berlin. And, at the United Nations, the Soviet Bloc seemed bent on causing dissension between Western Europe and the United States and between the developed and undeveloped nations. This aggressive Soviet foreign policy, combined with advances in nuclear weapons, led officials such as Secretary of State John Foster Dulles to see the Soviet Union as a menace to peace and world order.

The Soviet Union's growing military strength soon became a threat not just to US forces overseas but to the continental United States itself. In the spring of 1953, a top secret RAND study pointed out the vulnerability of the SAC's US bases to a surprise attack by Soviet long-range bombers.[34]

Concern about the danger of a Soviet attack on the continental United States grew after an American military attache sighted a new Soviet intercontinental bomber at Ramenskoye airfield, south of Moscow, in 1953. The new bomber was the Myasishchev-4, later designated Bison by NATO. Powered by jet engines rather than the turboprops of Russia's other long-range bombers, the Bison appeared to be the Soviet equivalent of the US B-52, which was only then going into production. Pictures of the Bison taken at the Moscow May Day air show in 1954 had an enormous impact on the US intelligence community. Unlike several other Soviet postwar aircraft, the Bison was not a derivative of US or British designs but represented a native Soviet design capability that surprised US intelligence experts. This new long-range jet bomber, along with the Soviet Union's large numbers of older propeller and turboprop bombers, seemed to pose a significant threat to the United States, and, in the summer of 1954, newspapers and magazines began publishing articles highlighting the growing airpower of the Soviet Union. Pictures of the Bison bomber featured prominently in such stories.[35]

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[34] RAND Corporation, Plans Analysis Section, "*Vulnerability of U.S. Strategic Power to a Surprise Attack in 1956,*" RAND Special Memorandum No. 15, Santa Monica, California: the RAND Corporation, April 15, 1953 (TS, declassified May 1967).

[35] "AF Cites Red Bomber Progress," *Aviation Week*, May 24, 1954, p. 14; "Is Russia Winning the Arms Race?," *US News and World Report*, June 18, 1954, pp. 28-29; "Russia Parades Airpower as '*Big Stick*'," *Aviation Week*, June 28, 1954, p. 15; "Red Air Force: The World's Biggest," *Newsweek*, August 23, 1954, pp. 28-33.

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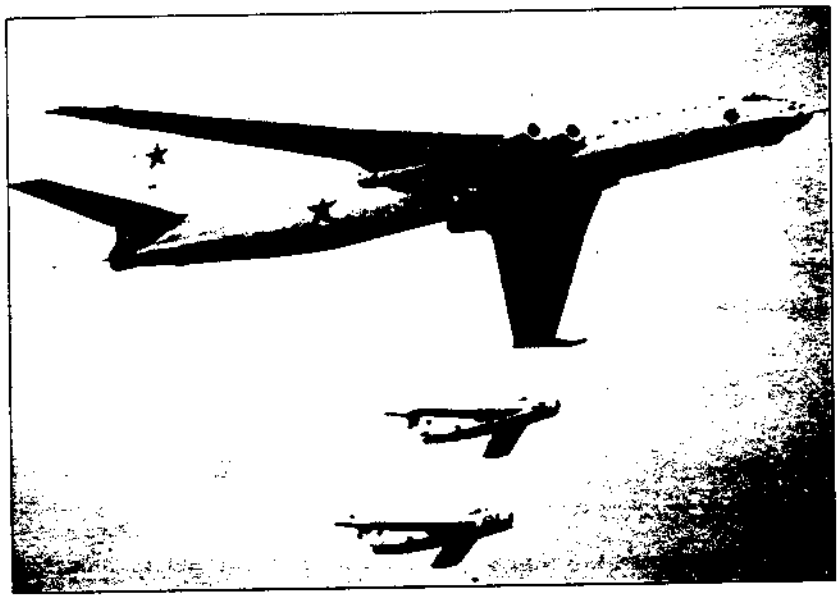

Soviet Myasishchev-4 bomber (the Bison)

The Air Force Intelligence Systems Panel

Even before the publication of photographs of the Bison raised fears that the Soviet bomber force might eventually surpass that of the United States, the Air Force had already established a new advisory body to look for ways to implement the main recommendation of the BEACON HILL Report—the construction of high-flying aircraft and high-acuity cameras. Created in July 1953, the Intelligence Systems Panel (ISP) included several experts from the BEACON HILL Study Group: Land, Overhage, Donovan, and Miller. At the request of the Air Force, the CIA also participated in the panel, represented by Edward L. Allen of the Office of Research and Reports (ORR) and Philip Strong of the Office of Scientific Intelligence (OSI).[36]

The chairman of the new panel was Dr. James G. Baker, a research associate at the Harvard College Observatory. Baker had been involved in aerial reconnaissance since 1940, when he first advised the Army Air Corps on ways to improve its lenses. He then established a full-scale optical laboratory at Harvard—the Harvard University Optical Research Laboratory—to produce high-quality

[36] Memorandum for Robert Amory, Jr., Deputy Director, Intelligence from Edward L. Allen, Chief, Economic Research, ORR and Philip G. Strong, Chief, Operations Staff, OSI, "Meeting of the Intelligence Systems Panel of the Scientific Advisory Board, USAF," 26 August 1953, OSI (OSWR) records, job 80R-01424, box 1 (S).

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lenses. Since the university did not wish to continue manufacturing cameras and lenses after the end of the war, the optical laboratory moved to Boston University, which agreed to sponsor the effort as long as the Air Force would fund it. Baker decided to remain at Harvard, so his assistant, Dr. Duncan E. Macdonald, became the new head of what was now called the Boston University Optical Research Laboratory (BUORL). Baker's association with the Air Force did not end with the transfer of the optical laboratory to Boston University, because he continued to design lenses to be used in photoreconnaissance.[37]

The ISP first met at Boston University on 3 August 1953. To provide background on the poor state of US knowledge of the Soviet Union, Philip Strong informed the other panel members that the best intelligence then available on the Soviet Union's interior was photography taken by the German Luftwaffe during World War II. Since the German photography covered only the Soviet Union west of the Urals, primarily west of the Volga River, many vital regions were not included. The ISP would, therefore, have to look for ways to provide up-to-date photography of all of the Soviet Union. Several Air Force agencies then briefed the panel members on the latest developments and proposed future projects in the area of aerial reconnaissance, including new cameras, reconnaissance balloons, and even satellites. Among the Air Force reconnaissance projects discussed were multiple sensors for use in existing aircraft such as the RB-47, RB-52, and RB-58; Project FICON—an acronym for "fighter conversion"—for adapting a giant, 10-engine B-36 bomber to enable it to launch and retrieve a Republic RF-84F Thunderflash reconnaissance aircraft; reconnaissance versions of the Navajo and Snark missiles; the high-altitude balloon program, which would be ready to go into operation by the summer of 1955; and the search for a new high-altitude reconnaissance aircraft.[38]

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[37] Baker interview (S). In 1957, after the Air Force decided to cut back its funding of BUORL, Duncan Macdonald and Richard Leghorn (by then retired from the Air Force) formed their own corporation—Itek—and purchased the laboratory from Boston University (Leghorn interview [S]).

[38] Memorandum for Robert Amory, Jr., Deputy Director, Intelligence, from Edward L. Allen, Chief, Economic Research, ORR, and Philip G. Strong, Chief, Operations Staff, OSI, "Meeting of the Intelligence Systems Panel of the Scientific Advisory Board, USAF," 26 August 1953; Memorandum for H. Marshall Chadwell, Assistant Director/Scientific Intelligence, from Chief, Support Staff, OSI, "Review of OSA Activities Concerned with Scientific and Technical Collection Techniques," 13 May 1955, p. 6, OSI (OSWR) records, job 80R-01424, box 1 (S); Donovan interview, 22 May 1985 (S).

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The wide variety of programs discussed at the conference were all products of the Air Force's all-out effort to find a way to collect intelligence on the Communist Bloc. Some of the schemes went beyond the existing level of technology; others, like the camera-carrying balloons, were technically feasible but involved dangerous political consequences.

British Overflight of Kapustin Yar

The British were also working on high-altitude reconnaissance aircraft. In 1952 the Royal Air Force (RAF) began Project ROBIN, which was designed to modify the Canberra bomber for high-altitude reconnaissance. This project was probably inspired by Richard Leghorn's collaboration with English Electric Company designers in 1951, when they calculated ways to increase the altitude of the Canberra. The RAF equipped the new Canberra PR7 with Rolls-Royce Avon-109 engines and gave it long, fuel-filled wings. The range of this variant of the Canberra was now 4,300 miles, and, on 29 August 1955, it achieved an altitude of 65,880 feet.[39]

Sometime during the first half of 1953, the RAF employed a high-altitude Canberra on a daring overflight of the Soviet Union to photograph the missile test range at Kapustin Yar. Because of advanced warning from either radar or agents inside British intelligence, the overflight did not catch the Soviet Union by surprise. Soviet fighters damaged and nearly shot down the Canberra.[40] Rumors about this flight reached Washington during the summer of 1953, but official confirmation by the United Kingdom did not come until February 1954. While on a six-week tour of Europe to study aerial reconnaissance problems for the US Air Force's Scientific Advisory Board, James Baker was briefed by RAF intelligence officials on the Canberra overflight of the Soviet Union. On 22 and 23 March 1954, he reported on it to the full Scientific Advisory Board at Langley AFB, Virginia.

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[39] Van der Aart, *Aerial Espionage*, p. 18; Philip G. Strong, Chief, Operations Staff, OSI, Memorandum for the Record, "Meeting of Air Force Scientific Advisory Board, 18-21 October 1953," 26 October 1953, OSI (OSWR) records, job 80R-01424, box 1 (TS, downgraded to S).

[40] Stewart Alsop, *The Center*, (New York: Popular Library, 1968), p. 194; Beschloss, *Mayday*, pp. 78-79. Both of these books state that the project included the CIA, but there is no evidence to support this assertion.

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Allen F. Donovan

Baker also chaired the next meeting of the Air Force's Intelligence Systems Panel in late April 1954 but could not tell its members about the British overflight of Kapustin Yar because they were not cleared for this information. The panel did, however, discuss the modifications for high-altitude flight being made to the US Canberra, the B-57.[41]

The Intelligence Systems Panel and the CL-282

The next Intelligence Systems Panel meeting took place on 24 and 25 May at Boston University and the Polaroid Corporation. Panel member Allen F. Donovan from the Cornell Aeronautical Laboratory evaluated the changes being made to the B-57 by the Martin Aircraft Company. Even without Martin's specifications or drawings, Donovan had been able to estimate what could be done to the B-57 by lengthening the wings and lightening the fuselage. He had determined that alterations to the B-57 airframe would not solve the reconnaissance needs expressed in the *BEACON HILL Report*. Theoretically, he explained to the panel, any multiengine aircraft built according to military specifications, including the B-57, would be too heavy to fly above 65,000 feet and hence would be vulnerable to Soviet interception. To be safe, Donovan explained, penetrating aircraft would need to fly above 70,000 feet for the entire mission.[42]

Development of such an aircraft was already under way, Donovan continued, for Philip Strong of the CIA had told him that the Lockheed Aircraft Corporation had designed a lightweight, high-flying aircraft. ISP chairman Baker then urged Donovan to travel to southern California to evaluate the Lockheed design and gather ideas on high-altitude aircraft from other aircraft manufacturers.

When he was finally able to make this trip in late summer, Donovan found the plane that he and the other ISP members had been seeking. On the afternoon of 2 August 1954, Donovan met with L. Eugene Root, an old Air Force acquaintance who was now a Lockheed vice-president, and learned about the Air Force's competition for a high-altitude reconnaissance aircraft. Kelly Johnson then showed Donovan the plans for Lockheed's unsuccessful entry. A lifelong sailplane enthusiast, Donovan immediately recognized that the

[41] Baker interview (S).

[42] Donovan interview (S); Baker interview (S).

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CL-282 design was essentially a jet-propelled glider capable of attaining the altitudes that he felt were necessary to carry out reconnaissance of the Soviet Union successfully.[43]

Upon his return east on 8 August, Donovan got in touch with James Baker and suggested an urgent meeting of the Intelligence Systems Panel. Because of other commitments by the members, however, the panel did not meet to hear Donovan's report until 24 September 1954 at the Cornell Aeronautical Laboratory. Several members, including Land and Strong, were absent. Those who did attend were upset to learn that the Air Force had funded a closed competition for a tactical reconnaissance plane without informing them. But once Donovan began describing Kelly Johnson's rejected design for a jet-powered glider, they quickly forgot their annoyance and listened intently.

Donovan began by stressing that high-altitude reconnaissance aircraft had to fly above 70,000 feet to be safe from interception. Next, he set out what he considered to be the three essential requirements for a high-altitude spyplane: a single engine, a sailplane wing, and low structural load factors. Donovan strongly favored single-engine aircraft because they are both lighter and more reliable than multiengine aircraft. Although a twin-engine aircraft could theoretically return to base on only one engine, Donovan explained, it could only do so at a much lower altitude, about 34,000 feet, where it was sure to be shot down.

The second of Donovan's essential factors, a sailplane wing (in technical terms a high-aspect-ratio, low-induced-drag wing), was needed to take maximum advantage of the reduced thrust of a jet engine operating in the rarefied atmosphere of extreme altitude. Because of the thinness of the atmosphere above 70,000 feet, engineers estimated that the power curve of a jet engine would fall off to about 6 percent of its sea-level thrust.

Finally, low structural load factors, like those used by transport aircraft, were necessary to reduce weight and thereby achieve maximum altitude. Donovan explained that strengthening wings and

[43] Donovan interview (S)

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wingroot areas to withstand the high speeds and sharp turns mandated by the standard military airworthiness rules added too much weight to the airframe, thereby negating the efficiency of the sailplane wing.

In short, it was possible to achieve altitudes in excess of 70, 000 feet, but only by making certain that all parts of the aeronautical equation were in balance: thrust, lift, and weight. The only plane meeting these requirements, Donovan insisted, was Kelly Johnson's CL-282 because it was essentially a sailplane. In Donovan's view, the CL-282 did not have to meet the specifications of a combat aircraft because it could fly safely above Soviet fighters.[44]

Donovan's arguments convinced the Intelligence Systems Panel of the merits of the CL-282 proposal, but this panel reported to the Air Force, which had already rejected the CL-282. Thus, even though the Lockheed CL-282 had several important sources of support by September 1954—the members of the Intelligence Systems Panel and high-ranking Air Force civilians such as Trevor Gardner—these backers were all connected with the Air Force. They could not offer funds to Lockheed to pursue the CL-282 concept because the Air Force was already committed to the Martin RB-57 and the Bell X-16. Additional support from outside the Air Force was needed to bring the CL-282 project to life, and this support would come from scientists serving on high-level advisory committees.

The Technological Capabilities Panel

The Eisenhower administration was growing increasingly concerned over the capability of the Soviet Union to launch a surprise attack on the United States. Early in 1954, Trevor Gardner had become alarmed by a RAND Corporation study warning that a Soviet surprise attack might destroy 85 percent of the SAC bomber force. Gardner then met with Dr. Lee DuBridge, President of the California Institute of Technology and Chairman of the Office of Defense Mobilization's Science Advisory Committee, and criticized the committee for not dealing with such essential problems as the possibility of a surprise attack. This criticism led DuBridge to invite Gardner to speak at the Science Advisory Committee's next meeting. After listening to

[44] Donovan interview (S); Baker interview (S).

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Gardner, the committee members decided to approach President Eisenhower on the matter. On 27 March 1954, the President told them about the discovery of the Soviet Bison bombers and his concern that these new aircraft might be used in a surprise attack on the United States. Stressing the high priority he gave to reducing the risk of military surprise, the President asked the committee to advise him on this problem.[45]

James R. Killian, Jr.

The President's request led Chairman DuBridge to ask one of the most prominent members, MIT President James R. Killian, Jr., to meet with other Science Advisory Committee members in the Boston area to discuss the feasibility of a comprehensive scientific assessment of the nation's defenses. At their meeting at MIT on 15 April 1954, the group called for the recruitment of such a task force if the President endorsed the concept.

On 26 July 1954, President Eisenhower authorized Killian to recruit and lead a panel of experts to study "the country's technological capabilities to meet some of its current problems." Killian quickly set up shop in offices located in the Old Executive Office Building and organized 42 of the nation's leading scientists into three special project groups investigating US offensive, defensive, and intelligence capabilites, with an additional communications working group (see chart, page 28). The Technological Capabilities Panel (TCP) groups began meeting on 13 September 1954. For the next 20 weeks, the members of the various panels met on 307 separate occasions for briefings, field trips, conferences, and meetings with every major unit of the US defense and intelligence establishments. After receiving the most up-to-date information available on the nation's defense and intelligence programs, the panel members began drafting their report to the National Security Council.[46]

Project Three Support for the Lockheed CL-282

Even before the final Technological Capabilities Panel report was ready, one of the three working groups took actions that would have a major impact on the US reconnaissance program. Project Three had

[45] Beschloss, *Mayday*, pp. 73-74; Technological Capabilities Panel of the Science Advisory Committee, *Meeting the Threat of Surprise Attack*, 14 February 1955, p. 185 (hereafter cited as *TCP Report*) (TS/Restricted Data, downgraded to S).

[46] James R. Killian, Jr., *Sputnik, Scientists, and Eisenhower: A Memoir of the First Special Assistant to the President for Science and Technology* (Cambridge: MIT Press, 1977), p. 68; Beschloss, *Mayday*, p. 74; *TCP Report*, pp. 185-186 (S).

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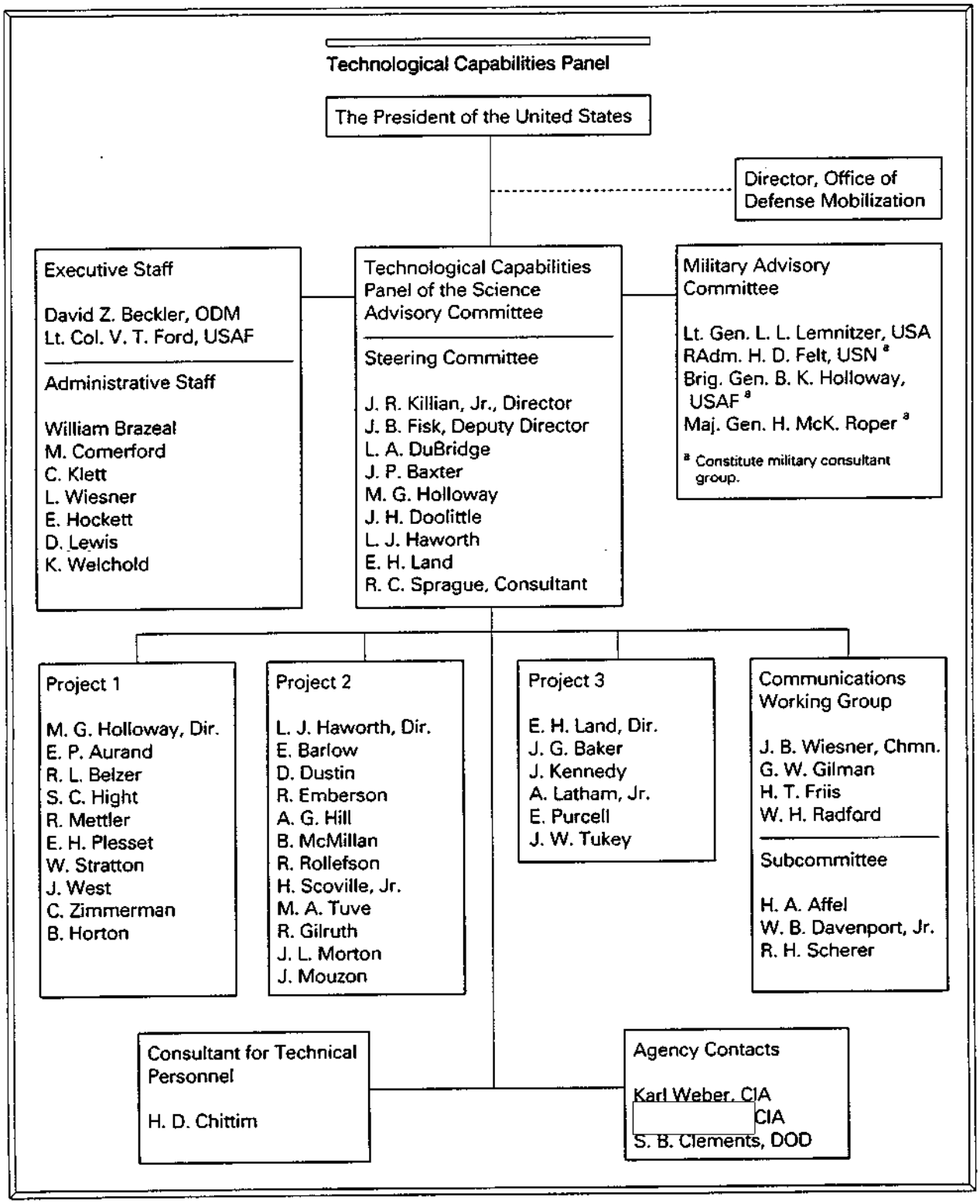

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the task of investigating the nation's intelligence capabilities. Its chairman was Edwin H. (Din) Land, the inventor of the polarizing filter and the instant camera. When James Killian asked Land to head Project Three, Land had to make a major decision about his career. At the time, the 45-year-old millionaire was on a leave of absence from Polaroid and was living in Hollywood, advising Alfred Hitchcock on the technological aspects of making three-dimensional movies. Land decided to give up his interest in cinema's third dimension and return east to Polaroid and the panel appointment.[47]

Edwin H. Land

Land's Project Three was the smallest of the three Technological Capabilities Panel projects, for he preferred what he called "taxicab committees"—committees small enough to fit into a single taxicab. The Project Three committee consisted of Land; James Baker and Edward Purcell of Harvard; chemist Joseph W. Kennedy of Washington University, St. Louis; mathematician John W. Tukey of Princeton University and Bell Telephone Laboratories; and Allen Latham, Jr., of Arthur D. Little, Inc., an engineer and former treasurer of the Polaroid Corporation.[48]

In mid-August 1954, Land and Baker went to Washington to arrange for the various intelligence organizations to brief the Project Three study group. As the briefings progressed, the panel members became more and more distressed at the poor state of the nation's intelligence resources. Land later noted, "We would go in and interview generals and admirals in charge of intelligence and come away worried. Here we were, five or six young men, asking questions that these high-ranking officers couldn't answer." Land added that the Project Three members were also not overly impressed with the Central Intelligence Agency.[49]

Land learned the details of Lockheed's proposed CL-282 aircraft soon after he arrived in Washington. Philip Strong showed him Kelly Johnson's conceptual drawing of the plane and told him that the Air Force had rejected it. Although Land had heard Allen Donovan

[47] James R. Killian, Jr., interview by Donald E. Welzenbach, tape recording, Cambridge, Massachusetts, 2 November 1984 (S); Land interview (TS Codeword).

[48] *TCP Report*, p. 188 (S).

[49] Land interview (TS Codeword).

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briefly mention a Lockheed design for a high-flying aircraft at the 24-25 May meeting of Baker's Intelligence Systems Panel, he did not realize that that plane and the one in Strong's drawing were the same. As soon as Land saw Strong's copy of the CL-282 drawing, however, he telephoned Baker to say, "Jim, I think I have the plane you are after."[50]

A few days later, when Land showed Kelly Johnson's conceptual drawing to Baker and the other Project Three members, they all became enthusiastic about the aircraft's possibilities. Although Baker had heard Allen Donovan's brief mention of the Lockheed design in May, he had not yet seen a drawing of the aircraft because Donovan did not report to the ISP on his early-August trip to Lockheed until 24 September. After seeing the CL-282 drawing, Baker began designing a camera and lens system that would fit in the Lockheed craft.[51]

At the end of August, Land discussed the CL-282 with Allen Dulles's Special Assistant for Planning and Coordination, Richard Bissell, who came away from the meeting without any definite ideas as to what Land wanted to do with the aircraft. Overhead reconnaissance was not uppermost in Bissell's mind at the time, and it was unclear to him why he had even been contacted.[52] Bissell's outstanding academic credentials, his acquaintanceship with James Killian through his previous teaching experience at MIT, and his direct access to DCI Dulles may have led the Technological Capabilities Panel members to consider him the best CIA point of contact.

Although surprised that he had become involved in the CL-282 project, Bissell's interest was piqued, and he set out to learn what he could about reconnaissance systems. In early September 1954, Bissell had Douglas E. Ashford, a young Air Force officer on his staff, put together a general status report on air reconnaissance programs. Bissell forwarded the 16-page study to the Deputy Director of Central Intelligence (DDCI), Lt. Gen. Charles Pearre Cabell, USAF, on 24 September. In a covering memorandum, Bissell called Cabell's

[50] Baker interview (S).

[51] Ibid.

[52] Bissell interview (S).

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attention to a section of the report about a "stripped or specialized aircraft" called the Lockheed CL-282.[53]

By September 1954, Land's Project Three study group had become very much interested in the Lockheed CL-282 design. Their interest grew even stronger when James Baker told them of Allen Donovan's strong case for the CL-282 at the 24-25 September meeting of the ISP. It is not possible to determine exactly when the Land committee decided to back the CL-282; in fact, there may never have been a formal decision as such. In view of Land's impulsive nature, he probably seized upon the CL-282 design as being a workable concept and immediately began developing it into a complete reconnaissance system.

During September and October the Project Three study group met frequently to discuss the Lockheed design and the reconnaissance equipment it would carry. Meetings were small, generally with fewer than 10 participants; Garrison Norton was often the only government official in attendance. At times outside experts joined in the proceedings. When the discussion turned to cameras and film, Land invited Dr. Henry Yutzy, Eastman Kodak's film expert, and Richard S. Perkin, President of the Perkin-Elmer Company, to participate. For discussions on the J57 engine, the panel members asked Perry W. Pratt, Pratt and Whitney's chief engineer, to attend. Kelly Johnson also met with the panel to review plans for the CL-282 system.[54]

By the end of October, the Project Three meetings had covered every aspect of the Lockheed design. The CL-282 was to be more than an airplane with a camera, it was to be an integrated intelligence-collection system that the Project Three members were confident could find and photograph the Soviet Union's Bison bomber fleet and, thus, resolve the growing "bomber gap" controversy. It was not just the Lockheed aircraft that had captured the Land group's fancy; the plane was seen as the platform for a whole new generation of aerial cameras that several committee members had been discussing since the BEACON HILL and Intelligence Systems Panel meetings. James Baker was in the process of developing a revolutionary new

[53] Memorandum for DDCI Charles Pearre Cabell from R. M. Bissell, Special Assistant to the Director for Planning and Coordination, "Aerial Reconnaissance," 24 September 1954, DCI Records, job 80-B-1676R, box 25 (TS, downgraded to S).

[54] Killian, *Sputnik, Scientists, and Eisenhower*, p. 82.

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camera with tremendously improved resolution and film capacity, and the Eastman Kodak company was working on new thin, lightweight film.[55]

By October 1954, the Project Three study group had drafted a complete program for an overhead reconnaissance effort based on the CL-282 aircraft. The one remaining question was who would conduct the overflights. The committee's members, particularly Land, were not in favor of the Air Force conducting such missions in peacetime. Firmly believing that military overflights in armed aircraft could provoke a war, they argued for civilian overflights in unarmed, unmarked aircraft. In their view, the organization most suited for this mission was the Central Intelligence Agency.[56]

In late October 1954, the Project Three panel discussed the CL-282 system concept with DCI Allen Dulles and the Secretary of the Air Force's Special Assistant for Research and Development, Trevor Gardner. Dulles was reluctant to have the CIA undertake the project. He did not like to involve the CIA with military projects, even ones that the military had rejected, like the CL-282. Furthermore, the DCI strongly believed that the Agency's mission lay in the use of human operatives and secret communications, the classic forms of intelligence gathering. Land came away from this meeting with the impression that Dulles somehow thought overflights were not fair play. Project Three committee members were nevertheless convinced that technology, particularly in the form of the CL-282 and the new camera designs, would solve the nation's intelligence problems.[57]

A Meeting With the President

Allen Dulles's reluctance to involve the CIA in the CL-282 project did not stop the Project Three committee from pursuing its aims because it was able to go over Dulles's head and appeal directly to the President. Having participated in the BEACON HILL Study and the Intelligence Systems Panel, several Project Three members had definite ideas on how to improve intelligence collection, ideas that they were determined to present to the highest levels of government. They were able

[55] Land interview (TS Codeword).

[56] Land interview (TS Codeword); Baker interview (S).

[57] Land interview (TS Codeword).

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to do so because the Land committee was part of a panel commissioned by President Eisenhower to examine the nation's intelligence community and recommend changes. The committee thus had a direct line to the White House through James Killian's contacts there.

Early in November 1954, Land and Killian met with President Eisenhower to discuss high-altitude reconnaissance. Killian's memoirs contain an account of this crucial meeting:

> *Land described the [CL-282] system using an unarmed plane and recommended that its development be undertaken. After listening to our proposal and asking many hard questions, Eisenhower approved the development of the system, but he stipulated that it should be handled in an unconventional way so that it would not become entangled in the bureaucracy of the Defense Department or troubled by rivalries among the services.*[58]

The scientists from the advisory committees and the President were thus in agreement that the new reconnaissance program should be controlled by the CIA, not the military.

CIA and Air Force Agreement on the CL-282

Meanwhile Edwin Land and his Project Three colleagues were working to convince Allen Dulles that the CIA should run the proposed overflight program. On 5 November Land wrote to the DCI strongly urging that the CIA undertake the CL-282 project:

> *Here is the brief report from our panel telling why we think overflight is urgent and presently feasible. I [Land] am not sure that we have made it clear that we feel there are many reasons why this activity is appropriate for CIA, always with Air Force assistance. We told you that this seems to us the kind of action and technique that is right for the contemporary version of CIA: a modern and scientific way for an Agency that is always supposed to be looking, to do its looking. Quite strongly, we feel that you must always assert your first right to pioneer in scientific techniques for collecting intelligence—and choosing such partners to assist you as may be needed. This present opportunity for aerial photography seems to us a fine place to start.*[59]

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[58] Killian, *Sputnik, Scientists, and Eisenhower*, p. 82. The exact date of the meeting cannot be determined, but it occurred during the first half of November 1954.

[59] Letter, Project Three Panel to DCI Allen F. Dulles, 5 November 1954, in *OSA History*, chap. 1, annex 1 (TS Codeword).

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The letter had two attachments: a two-page summary of a complete operational plan for organizing, building, and deploying the CL-282 within a period of 20 months at a cost of $22 million and a three-page memorandum, entitled "A Unique Opportunity for Comprehensive Intelligence."

Aware of Dulles's preference for classical intelligence work, the Project Three memorandum stressed the superiority of the CL-282 program over traditional espionage methods:

> *We believe that these planes can go where we need to have them go efficiently and safely, and that no amount of fragmentary and indirect intelligence can be pieced together to be equivalent to such positive information as can thus be provided.*[60]

The Land committee memorandum also stressed the need for the CIA to undertake such reconnaissance missions rather than the Air Force, noting that "For the present it seems rather dangerous for one of our military arms to engage directly in extensive overflight." The committee members also listed the advantages of using the CL-282 rather than an Air Force aircraft:

> *The Lockheed super glider will fly at 70,000 feet, well out of the reach of present Russian interceptors and high enough to have a good chance of avoiding detection. The plane itself is so light (15,000 pounds), so obviously unarmed and devoid of military usefulness, that it would minimize affront to the Russians even if through some remote mischance it were detected and identified.*[61]

One additional advantage of the Lockheed design over the Air Force's proposed high-altitude reconnaissance aircraft was a faster completion time. Kelly Johnson had promised the Land committee that his aircraft would be flying by August 1955, just eight months after he proposed to start construction. The Bell X-16 prototype was not scheduled for completion before the spring of 1956.

The strong advocacy of Killian and the other scientists on the various advisory committees concerned with overhead reconnaissance, combined with President Eisenhower's support, finally won

[60] Memorandum for DCI Allen F. Dulles from Project Three Panel, "A Unique Opportunity for Comprehensive Intelligence," 5 November 1954, p. 3 (TS, downgraded to S) in *OSA History*, chap. 1, annex 1 (TS Codeword).

[61] Ibid.

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over DCI Dulles, but a project of this magnitude also required the support of the Air Force. Some Air Force officials, however, feared that a decision to build the CL-282 might jeopardize the Air Force's own RB-57 and X-16 projects. Just one month earlier, in October 1954, the Wright Air Development Command had appealed to the Air Force Deputy Chief of Staff for Development, Lt. Gen. Donald L. Putt, to oppose the adoption of the Lockheed design. The officials argued that the Bell X-16 was a better design because it was more airworthy than the CL-282 and could be used throughout the Air Force in different types of missions because it had two engines, wheels, and an armor-plated, pressurized pilot's compartment. If J57 engines were diverted to the CL-282, the appeal to General Putt warned, there would not be enough of these popular powerplants to meet the needs of the X-16 program.[62]

Having heard of the Wright Air Development Command attack on the CL-282, Allen Donovan of the Intelligence Systems Panel met with General Putt on 19 October to argue in favor of the Lockheed design. This discussion led General Putt to meet with 15 scientists from the Technological Capabilities Panel on 18 November 1954 to discuss the merits of the four proposed reconnaissance aircraft. Also present as a briefer was Maj. John Seaberg from the Wright Air Development Command, who later recalled:

> *What I did was present the results of my comparative analysis of all four designs. I showed the relative high altitude performance capabilities of all four. I pointed out that aerodynamically the Bell, Fairchild, and Lockheed designs were close. Martin's B-57, being a modification, was not quite as capable. I stated that, in my opinion, the J73 [General Electric engine] would not be good enough to do the job in Johnson's airplane. And further, I overlaid a curve showing that with the J57 [Pratt & Whitney engine] installed, it would then be competitive with the Bell and Fairchild designs.*[63]

This meeting—along with the knowledge that President Eisenhower also supported the CL-282—helped win over the Air Force. To be on the safe side, however, the Air Force did not abandon the X-16 program until the Lockheed aircraft had begun flying.

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[62] Donovan interview (S).

[63] Quoted in Miller, *Lockheed U-2*, p. 13.

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On 19 November, the day after Seaberg's briefing, the final decision on the CL-282 came at a luncheon hosted by Air Force Secretary Talbott. The participants—Dulles and Cabell from the CIA; Gardner, Ayer, and General Putt from the Air Force; Kelly Johnson; and Edwin Land—all agreed "that the special item of material described by Lockheed was practical and desirable and would be sought. . . . It was agreed that the Project should be a joint Air Force–CIA one but that, regardless of the source of the funds, whether AF or CIA, CIA unvouchered channels would be needed to pass the funds."[64]

It is interesting to note that Lockheed, which had originally developed the CL-282 on its own and had devoted considerable effort to promoting it, had to be persuaded to undertake the project in November 1954 because the company had become heavily committed to several other civilian and military projects. When Kelly Johnson received a call from Trevor Gardner on 17 November asking him to come to Washington for conversations on the project, his instructions from Lockheed's senior management were "to not commit to any program during the visit, but to get the information and return." When he returned to California, Johnson noted in his project log that "I was impressed with the secrecy aspect and was told by Gardner that I was essentially being drafted for the project. It seemed, in fact, that if I did not talk quietly, I might have to take a leave of absence from my job at Lockheed to do this special project."[65] Of course, Kelly Johnson did not need to be drafted or persuaded into undertaking such a bold step forward in aircraft design. He used Gardner's statement to convince Lockheed's senior management to approve the project, which they did after meeting with Johnson when he returned to California on the evening of 19 November.

Four days later, on 23 November, the Intelligence Advisory Committee (IAC) approved DCI Dulles's request to undertake the CL-282 project. The following day Dulles signed a three-page memorandum, drafted by DDCI Cabell, asking President Eisenhower to approve the overhead reconnaissance project. That same afternoon, at a meeting attended by the Secretaries of State and Defense and senior Air Force officials, Dulles and Cabell presented the document to the

[64] Charles Pearre Cabell, Memorandum for the Record, "Luncheon Meeting with the Secretary of the Air Force," 19 November 1954, in *OSA History*, chap. 2, annex 4 (TS Codeword).

[65] Johnson, "Log for Project X," 17 and 19 November 1954.

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President and received verbal authorization to proceed. Eisenhower told Dulles that the project was to be managed by the Agency and that the Air Force was to provide any assistance needed to get it operational.[66]

Thus, it was that the CIA entered into the world of high technology primarily because of decisions and actions taken outside the Agency: the Air Force's refusal to build the CL-282 aircraft, President Eisenhower's desire to have a sensitive overflight project conducted by a civilian agency rather than the military, and, above all, the determination by a small group of prominent scientists that the Lockheed design represented the best possible overhead reconnaissance system.[67]

[66] Charles Pearre Cabell, Memorandum for the Record, "Meeting at the White House," 24 November 1954, in *OSA History*, chap. 2, annex 8 (TS Codeword) ; Beschloss, *Mayday*, pp. 82-83; Andrew J. Goodpaster, Memorandum of Conference with the President, 24 November 1954," White House Office of the Staff Secretary, Alpha Series, Dwight D. Eisenhower Library (hereafter cited as WHOSS, Alpha, DDEL) (TS, declassified).

[67] Scientists remained active in advising the government on overhead reconnaissance. In February 1955, the Technological Capabilities Panel issued its final report, which strongly urged the use of technology to gather intelligence. President Eisenhower strongly backed the panel's findings and directed government agencies to respond to the recommendations by June. The CIA's most important reaction to the Technological Capabilities Panel report was to create its own Scientific Advisory Board composed of the members of the Project Three Study Group with the addition of James Killian and Jerome B. Wiesner, professor of electrical engineering at MIT. Edwin Land served as chairman of the CIA Scientific Advisory Board for the next 10 years, and it soon became known unofficially as the Land Panel. This panel provided important advice to the Agency, particularly in the field of overhead reconnaissance.

President Eisenhower also acted to increase the amount and quality of scientific advice he was receiving. In January 1956 he established the President's Board of Consultants on Foreign Intelligence Activities (renamed the President's Foreign Intelligence Advisory Board in 1961) to oversee the intelligence community and advise him on intelligence matters. The board's first chairman was James Killian. In 1957 the President reorganized and upgraded the Office of Defense Mobilization's Science Advisory Committee, which became the President's Science Advisory Committee. He also named James Killian to be the first Special Assistant to the President for Science and Technology. In this new position Killian served as the President's scientific advisor and the chairman of the President's Scientific Advisory Committee (Killian stepped down as chairman of the President's Board of Consultants on Foreign Intelligence Activities but remained a member). These actions by the President brought scientists into the White House and gave them considerable influence.

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2

Developing the U-2

THE ESTABLISHMENT OF THE U-2 PROJECT

On 26 November 1954, the day after Thanksgiving, Allen Dulles called his special assistant, Richard Bissell, into his office to tell him that President Eisenhower had just approved a very secret program and that Dulles wanted Bissell to take charge of it. Saying it was too secret for him to explain, Dulles gave Bissell a packet of documents and told him he could keep it for several days to acquaint himself with the project. Bissell had long known of the proposal to build a high-altitude reconnaissance aircraft, but only in the most general terms. Now he learned in detail about the project that proposed sending aircraft over the Soviet Union.

Late on the morning of 2 December 1954, Dulles told Bissell to go to the Pentagon on the following day to represent the Agency at an organizational meeting for the U-2[1] project. Before leaving, Bissell asked Dulles which agency was to run the project. The DCI replied that nothing had been clearly decided. Bissell then asked who was going to pay for the project. Dulles answered: "That wasn't even mentioned. You'll have to work that out." [2]

Bissell was accompanied by Herbert I. Miller, chief of the Office of Scientific Intelligence's Nuclear Energy Division, who soon became the executive officer of the overflight project. When Bissell and Miller arrived at the Pentagon on the afternoon of 3 December, they

[1] Although the Lockheed CL-282 was not designated as the U-2 until July 1955, this study will use the more widely known designator to avoid confusion.

[2] Bissell interview (S); *OSA History*, chap. 3, p. 1 (TS Codeword).

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James A. Cunningham, Jr.

sat down with a group of key Air Force officials that included Trevor Gardner and Lt. Gen. Donald L. Putt. The participants spent very little time delineating Air Force and Agency responsibilities in the project, taking for granted that the CIA would handle the security matters. Much of the discussion centered on methods for diverting Air Force materiel to the program, particularly the Pratt & Whitney J57 engines, because a separate contract for the engines might jeopardize the project's security. The Air Force promised to turn over a number of J57 engines, which were then being produced for B-52s, KC-135s, F-100s, and RB-57s. Eventually Bissell asked who was going to pay for the airframes to be built by Lockheed. His query was greeted with silence. Everyone present had their eyes on him because they all expected the Agency to come up with the funds. Bissell rose from his chair, said he would see what he could do, and the meeting adjourned.[3]

After the meeting, Bissell told Dulles that the CIA would have to use money from the Contingency Reserve Fund to get the project going. The DCI used this fund to pay for covert activities, following approval by the President and the Director of the Budget. Dulles told Bissell to draft a memorandum for the President on funding the overflight program and to start putting together a staff for Project AQUATONE, the project's new codename.

At first the new "Project Staff" (renamed the Development Projects Staff in April 1958) consisted of Bissell, Miller, and the small existing staff in Bissell's Office of the Special Assistant to the DCI. During the months that followed the establishment of the project, its administrative workload increased rapidly, and in May 1955 the project staff added an administrative officer, James A. Cunningham, Jr., a former Marine Corps pilot then working in the Directorate of Support. Cunningham stayed with the U-2 project for the next 10 years. Two other key project officials who began their duties early in 1955 were [redacted] the finance officer, and [redacted] the contracting officer.[4]

[3] *OSA History*, chap. 3, p. 2 (TS Codeword); Bissell interview, 8 November 1984 (S); Beschloss, *Mayday*, p. 89.

[4] *OSA History*, chap. 3, pp. 6-7, chap. 4, pp. 1-2, chap. 5, pp. 27-29 (TS Codeword); *Chronology of the Office of Special Activities, 1954-1968*, (CIA: DS&T, 1969), p. 2-4 (TS Codeword) (hereafter cited as *OSA Chronology*).

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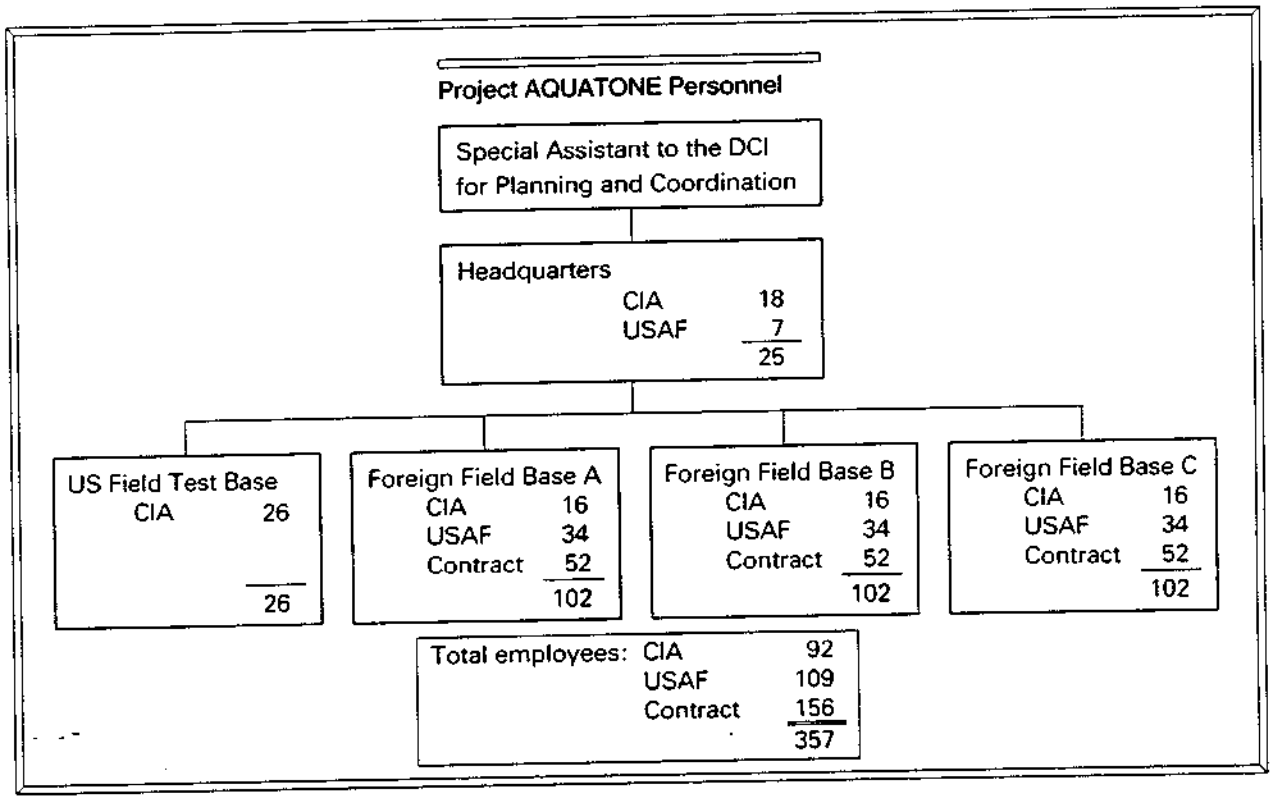

During the first half of 1955, the project staff grew slowly; many of the individuals working on overhead reconnaissance remained on the rolls of other Agency components. To achieve maximum security, Bissell made the project staff self-sufficient. Project AQUATONE had its own contract management, administrative, financial, logistic, communications, and security personnel, and, thus, did not need to turn to the Agency directorates for assistance. Funding for Project AQUATONE was also kept separate from other Agency components; its personnel and operating costs were not paid out of regular Agency accounts. As approving officer for the project, Richard Bissell could obligate funds in amounts up to $100,000; larger sums required the DCI's approval.[5]

At the end of April 1955, Bissell's staff developed, and the Deputy Director for Support approved, the first table of organization for Project AQUATONE. Once operational, the project would have a

[5] *OSA History*, chap. 3, pp. 5-7 (TS Codeword).

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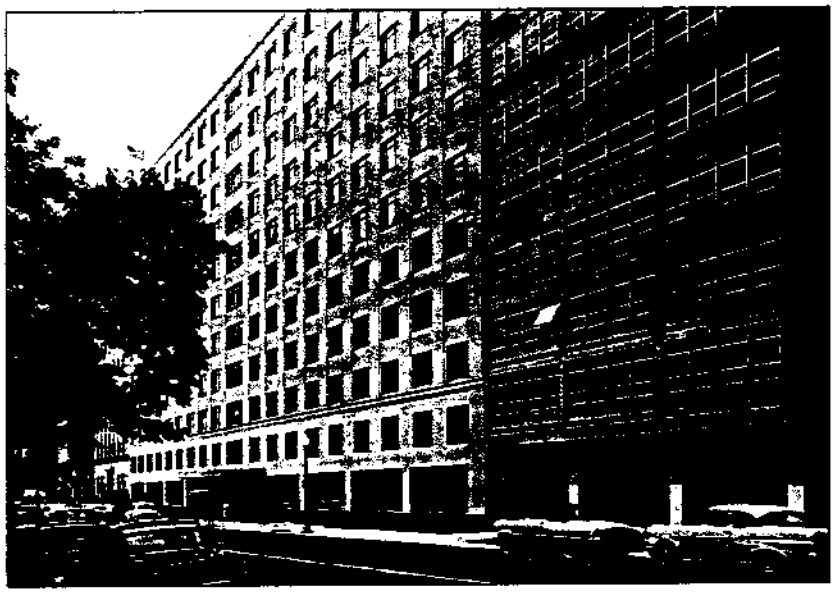

The Matomic Building

total of 357 personnel divided among project headquarters, a US testing facility, and three foreign field bases. CIA employees represented only one-fourth (92) of the total. The Air Force personnel commitment was larger, with 109 positions on the 1955 table of organization (this total does not include many other Air Force personnel, such as SAC meteorologists, who supported the U-2 project in addition to their other duties). The largest Project AQUATONE category was contract employees, with 156 positions in 1955. This category included maintenance and support personnel from Lockheed (five per aircraft), the pilots, and support personnel from other contractors for items such as photographic equipment.[6]

The first project headquarters was in CIA's Administration (East) Building at 2430 E Street, NW. Continued growth caused the AQUATONE staff to move several times during its first two years. On 1 May 1955, the project staff moved to the third floor of a small red brick building (the Briggs School) at 2210 E Street, NW. Then on 3 October, the staff moved to Wings A and C of Quarters Eye, a World War II "temporary" building on Ohio Drive, NW, in the West Potomac Park area of Washington. On 25 February 1956, the project staff moved again, this time to the fifth floor of the Matomic Building

[6] Project AQUATONE Table of Organization, 28 April 1955 in *OSA History*, chap. 3, annex 15 (TS Codeword).

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at 1717 H Street, NW. Here the staff remained for the next six years until it moved into the new CIA Headquarters building at Langley in March 1962. The final move came in January 1968, when the project staff (by that time known as the Office of Special Activities) moved to the [redacted]

Bissell reported directly to the DCI, although in reality the DDCI, Gen. Charles Pearre Cabell, was much more closely involved in the day-to-day affairs of the overhead reconnaissance project. Cabell's extensive background in Air Force intelligence, particularly in overhead reconnaissance, made him ideally qualified to oversee the U-2 project. Cabell frequently attended White House meetings on the U-2 for the DCI.

DDCI Charles Pearre Cabell

FUNDING ARRANGEMENTS FOR PROJECT AQUATONE

Although Allen Dulles had approved the concept of covert funding for the reconnaissance project, many financial details remained to be settled, including the contract with Lockheed. Nevertheless, work on the U-2 began as soon as the project was authorized. Between 29 November and 3 December 1954, Kelly Johnson pulled together a team of 25 engineers, which was not easy because he had to take them off other Lockheed projects without being able to explain why to their former supervisors. The engineers immediately began to work 45 hours a week on the project. The project staff gradually expanded to a total of 81 personnel, and the workweek soon increased to 65 hours.[8]

Kelly Johnson's willingness to begin work on the aircraft without a contract illustrates one of the most important aspects of this program: the use of unvouchered funds for covert procurement. Lockheed was well acquainted with the covert procurement process, having previously modified several aircraft for covert use by the CIA.

Covert funding for sensitive projects simplifies both procurement and security procedures because the funds are not attributable to the Federal Government and there is no public accountability for their

[7] *OSA History*, chap. 18, pp. 7-8 (TS Codeword); *OSA Chronology*, pp. 4, 7, 10, 45 (TS Codeword).

[8] Johnson, "Log for Project X," 29 November–3 December 1954 (U).

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use. Public Law 110, approved by the 81st Congress on 20 June 1949, designates the Director of Central Intelligence as the only government employee who can obligate Federal money without the use of vouchers. By using unvouchered funds, it is possible to eliminate competitive bidding and thereby limit the number of parties who know about a given project. The use of unvouchered funds also speeds up the Federal procurement cycle. A general contractor such as Lockheed can purchase much, if not all, of the supplies needed for a project without resorting at each step to the mandated procurement procedures involving public, competitive bidding. [redacted]

In mid-December 1954, President Eisenhower authorized DCI Dulles to use $35 million from the Agency's Contingency Reserve Fund to finance the U-2 project. Then on 22 December 1954, the Agency signed a letter contract with Lockheed, using the codename Project OARFISH. The Agency had proposed to give Lockheed "performance specifications" rather than the standard Air Force "technical specifications," which were more rigid and demanding, and Kelly Johnson agreed that such a move would save a lot of money. Lockheed's original proposal to the Air Force in May 1954 had been $28 million for 20 U-2s equipped with GE J73 engines. During negotiations with CIA General Counsel Lawrence R. Houston, Lockheed changed its proposal to $26 million for 20 airframes plus a two-seat trainer model and spares; the Air Force was to furnish the engines. Houston insisted that the Agency could only budget $22.5 million for the airframes because it needed the balance of the available $35 million for cameras and life-support gear. The two sides finally agreed on a fixed-price contract with a provision for a review three-fourths of the way through to determine if the costs were going to exceed the $22.5 million figure. The formal contract, No. SP-1913, was signed on 2 March 1955 and called for the delivery of the first U-2 in July 1955 and the last in November 1956. Meanwhile, to keep work moving at Lockheed, Richard Bissell wrote a check for $1,256,000 [redacted] and mailed it to Kelly Johnson's home on 21 February 1955.[9]

[9] John S. Warner, Office of the General Counsel, interview by Donald E. Welzenbach, Washington, DC, tape recording, 5 Aug 1983 (S); *OSA History*, chap. 5, pp. 1-2 and annex 42 (TS Codeword); Johnson, "Log for Project X," 21 February 1955.

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As it turned out, no review of the contract was necessary at the three-fourths point. Lockheed delivered the aircraft not only on time but under budget. During the final contract negotiations in the spring of 1958, Lockheed and the US Government agreed on a price for the original 20 aircraft of $17,025,542 plus a profit of $1,952,055 for a total of $18,977,597—less than $1 million for each aircraft. Because its design was based on Lockheed's F-104, the U-2 was relatively inexpensive even though only a small number of aircraft had been ordered. Only the wings and tail were unique; Lockheed manufactured the other portions of the aircraft using the F-104's jigs and dies.

MAJOR DESIGN FEATURES OF THE U-2

Aware of the great need for secrecy in the new project, Kelly Johnson placed it in Lockheed's Advanced Development facility at Burbank, California, known as the Skunk Works.[10] Lockheed had established this highly secure area in 1945 to develop the nation's first jet aircraft, the P-80 Shooting Star. The small Skunk Works staff began making the detailed drawings for the U-2, which was nicknamed the "Angel" because it was to fly so high.

Kelly Johnson's approach to prototype development was to have his engineers and draftsmen located not more than 50 feet from the aircraft assembly line. Difficulties in construction were immediately brought to the attention of the engineers, who gathered the mechanics around the drafting tables to discuss ways to overcome the difficulties. As a result, engineers were generally able to fix problems in the design in a matter of hours, not days or weeks. There was no emphasis placed on producing neatly typed memorandums; engineers simply made pencil notations on the engineering drawings in order to keep the project moving quickly.[11]

A little more than a week after he had been authorized to begin the project, Kelly Johnson wrote a 23-page report detailing his most recent ideas on the U-2 proposal. The aircraft, he explained, would be designed to meet load factors of only 2.5 g's, which was the limit for transport aircraft rather than combat planes. The U-2 would have a

[10] The Lockheed "Skunk Works" was named after the Kickapoo Joy Juice factory known as the "Skonk Works" in Al Capp's comic strip *Li'l Abner*.

[11] Ben A. Rich (current head of the "Skunk Works"), interview by Donald E. Welzenbach and Gregory W. Pedlow, Burbank, California, 26 August 1988.

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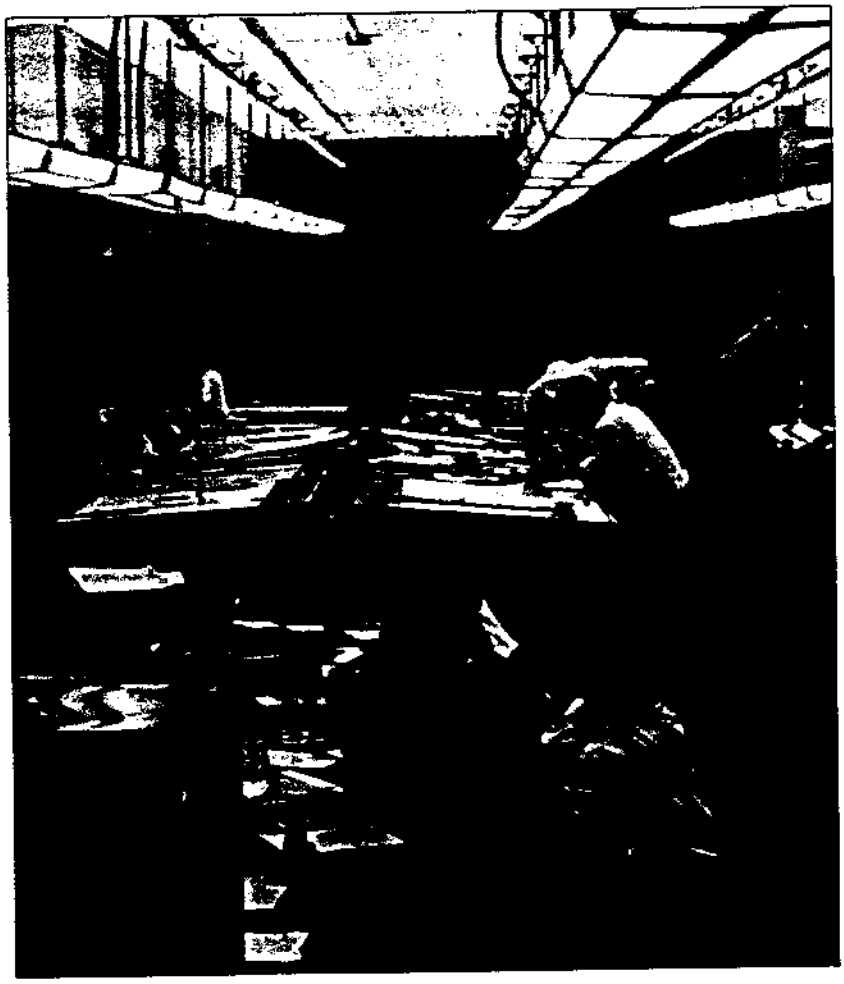

Skunk Works Design Staff

speed of Mach 0.8 or 460 knots at altitude. Its initial maximum altitude would be 70,600 feet and the ultimate maximum altitude would be 73,100 feet. According to these early December 1954 specifications, the new plane would take off at 90 knots, land at 76 knots, and be able to glide 244 nautical miles from an altitude of 70,000 feet. After discussing the reconnaissance bay with James Baker, Johnson had worked out various equipment combinations that would not exceed the weight limit of 450 pounds. Johnson ended his report by promising the first test flight by 2 August 1955 and the completion of four aircraft by 1 December 1955.[12]

[12] Kelly Johnson, "A High-Altitude Reconnaissance Aircraft," 9 December 1954, Lockheed Contract Files, OSA Records (S).

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In designing the U-2 aircraft, Kelly Johnson was confronted with two major problems—fuel capacity and weight. To achieve intercontinental range, the aircraft had to carry a large supply of fuel, yet, it also had to be light enough to attain the ultrahigh altitudes needed to be safe from interception. Although the final product resembled a typical jet aircraft, its construction was unlike any other US military aircraft. One unusual design feature was the tail assembly, which—to save weight—was attached to the main body with just three tension bolts. This feature had been adapted from sailplane designs.

The wings were also unique. Unlike conventional aircraft, whose main wing spar passes through the fuselage to give the wings continuity and strength, the U-2 had two separate wing panels, which were attached to the fuselage sides with tension bolts (again, just as in sailplanes). Because the wing spar did not pass through the fuselage, Johnson was able to locate the camera behind the pilot and ahead of the engine, thereby improving the aircraft's center of gravity and reducing its weight.

The wings were the most challenging design feature of the entire airplane. Their combination of high-aspect ratio and low-drag ratio (in other words, the wings were long, narrow, and thin) made them unique in jet aircraft design. The wings were actually integral fuel tanks that carried almost all of the U-2's fuel supply.

The fragility of the wings and tail section, which were only bolted to the fuselage, forced Kelly Johnson to look for a way to protect the aircraft from gusts of wind at altitudes below 35,000 feet, which otherwise might cause the aircraft to disintegrate. Johnson again borrowed from sailplane designs to devise a "gust control" mechanism that set the ailerons and horizontal stabilizers into a position that kept the aircraft in a slightly nose-up attitude, thereby avoiding sudden stresses caused by wind gusts. Nevertheless, the U-2 remained a very fragile aircraft that required great skill and concentration from its pilots.

The final major design feature was the lightweight, bicycle-type landing gear. The entire structure—a single oleostrut with two lightweight wheels toward the front of the aircraft and two small, solid-mount wheels under the tail—weighed only 208 pounds yet could withstand the force of touchdown for this 7-ton aircraft. Because both sets of wheels were located underneath the fuselage, the U-2 was also equipped with detachable pogos (long, curved sticks with two small wheels on them) on each wing to keep the wings level during takeoff. The pilot would drop the pogos immediately after takeoff so

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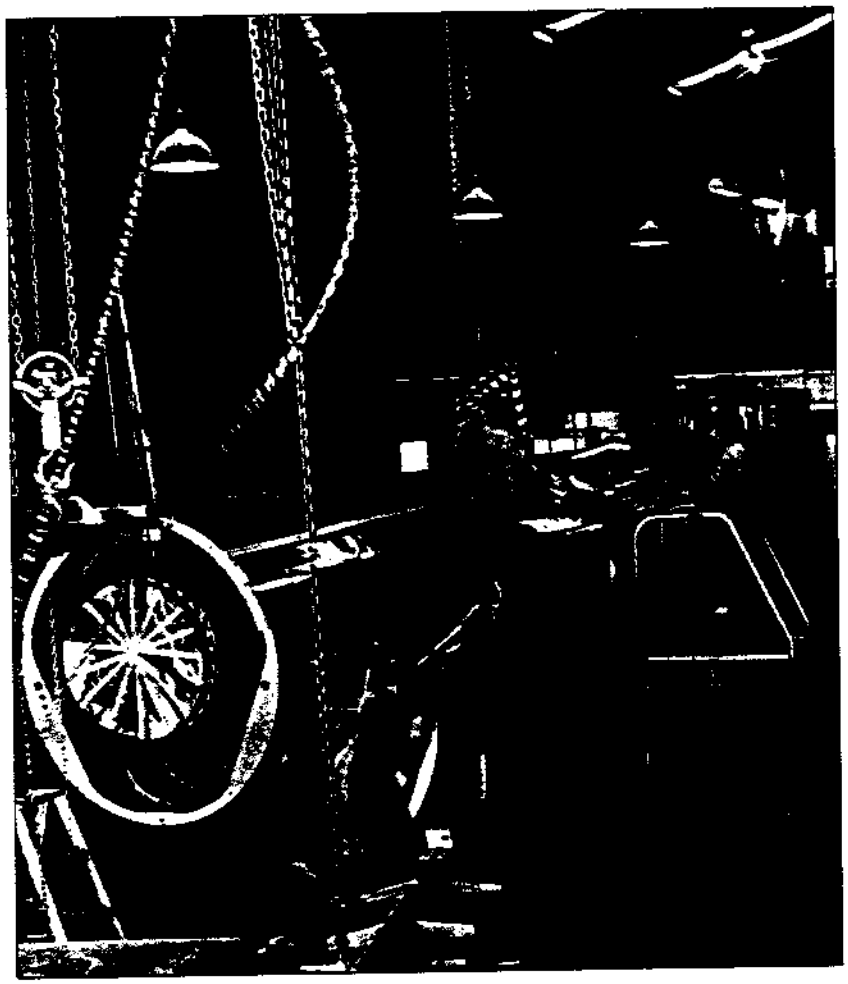

U-2 at testing site before attachment of wings and tail assembly

that they could be recovered and reused. The aircraft landed on its front and back landing gear and then gradually tilted over onto one of the wingtips, which were equipped with landing skids.[13]

THE DEVELOPMENT OF THE CAMERA SYSTEM

By December 1954, Kelly Johnson was at work on drawings for the U-2's airframe and Pratt & Whitney was already building the J57 jet

[13] For the design features of the U-2 in early 1955, see R. F. Boehme, *Summary Report: Reconnaissance Aircraft*, Lockheed Aircraft Corporation Report 10420, 28 January 1955, pp. 7-9, OSA Records, job 74-B-645, box 1 (S).

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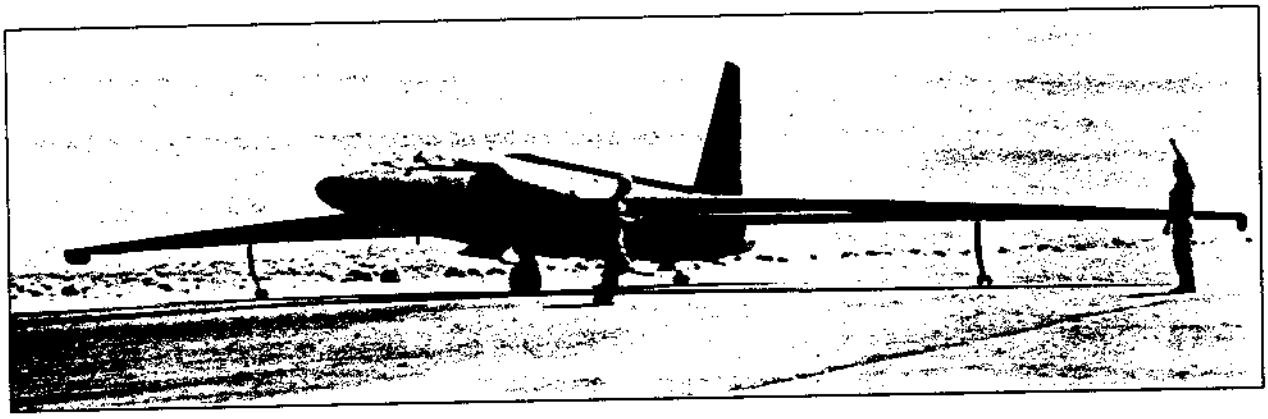

U-2 landing gear and pogos

engine, but no firm plans existed for the all-important cameras. Existing cameras were too bulky and lacked sufficient resolution to be used in high-altitude reconnaissance.

The workhorses of World War II aerial photography had been the Fairchild K-19 and K-21 framing cameras with lenses of varying focal lengths from 24 to 40 inches. Late in the war, the trimetrogon K-17 mapping-camera system came into use. This system consisted of three separate cameras which made three photographs simultaneously: a vertical, an oblique to the left, and an oblique to the right. The major shortcomings of the trimetrogon system were the large amount of film required and the system's lack of sharp definition on the obliques.

The standard aerial cameras available in the early 1950s could achieve resolutions of about 20 to 25 feet (7 to 8 meters) on a side when used at an altitude of 33,000 feet (10,000 meters), or about 25 lines per millimeter in current terms of reference. Such resolution was considered adequate because aerial photography was then used primarily to choose targets for strategic bombing, to assess bomb damage after air raids, and to make maps and charts. Unfortunately, a camera with a resolution of only 20 to 25 feet at a height of 33,000 feet was too crude to be used at twice that altitude. Indeed, for intelligence purposes a resolution of less than 10 feet was necessary to discern smaller targets in greater detail. This meant that any camera carried to altitudes above 68, 000 feet had to be almost four times as good as existing aerial cameras in order to achieve a resolution of less than 10 feet. As a result, some scientists doubted that useful photography could be obtained from altitudes higher than 40,000 feet.[14]

[14] Baker interview (S).

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James G. Baker

The first success in designing very-high-acuity lenses came in the mid-1940s, when James G. Baker of Harvard and Richard S. Perkin of the Perkin-Elmer (P-E) Company of Norwalk, Connecticut, collaborated on a design for an experimental camera for the Army Air Force. They developed a 48-inch focal-length scanning camera that was mounted in a modified B-36 bomber. When tested over Fort Worth, Texas, at 34,000 feet, the new camera produced photographs in which two golf balls on a putting green could be distinguished (in reality, however, the "golf balls" were 3 inches in diameter). These photographs demonstrated the high acuity of Baker's lens, but the camera weighed more than a ton and was much too large to be carried aloft in an aircraft as small as the U-2.

Realizing that size and weight were the major restraining factors in developing a camera for the U-2, James Baker began working on a radically new system in October 1954, even before the CIA adopted the Lockheed proposal. Baker quickly recognized, however, that he would need almost a year to produce a working model of such a complex camera. Since Kelly Johnson had promised to have a U-2 in the air within eight months, Baker needed to find an existing camera that could be used until the new camera was ready. After consulting with his friend and colleague Richard Perkin, Baker decided to adapt for the U-2 an Air Force camera known as the K-38, a 24-inch aerial framing camera built by the Hycon Manufacturing Company of Pasadena, California.

Perkin suggested modifying several standard K-38 cameras in order to reduce their weight to the U-2's 450-pound payload limit. At the same time, Baker would make critical adjustments to existing K-38 lenses to improve their acuity. Baker was able to do this in a few weeks, so several modified K-38s, now known as A-1 cameras, were ready when the first "Angel" aircraft took to the air in mid-1955.[15]

CIA awarded Hycon a contract for the modified K-38 cameras, and Hycon, in turn, subcontracted to Perkin-Elmer to provide new lenses and to make other modifications to the cameras in order to make them less bulky. In its turn, Perkin-Elmer subcontracted to Baker to rework the existing K-38 lenses and later design an improved lens system. To keep his lens-designing efforts separate from

[15] *Ibid.*

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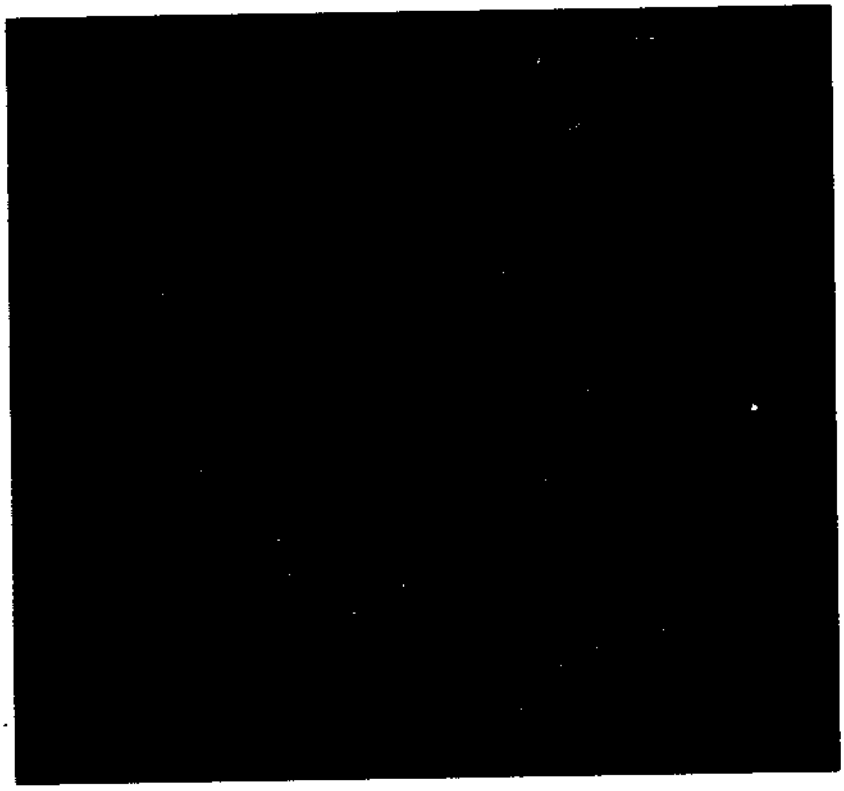

A-1 camera

his research associate duties at Harvard and his service on government advisory bodies, Baker established a small firm known as Spica, Incorporated, on 31 January 1955.

The A-1 camera system consisted of two 24-inch K-38 framing cameras. One was mounted vertically and photographed a 17.2° swath beneath the aircraft onto a roll of 9.5-inch film. The second K-38 was placed in a rocking mount so that it alternately photographed the left oblique and right oblique out to 36.5° onto separate rolls of 9.5-inch film. The film supplies unwound in opposite directions in order to minimize their effect on the balance of the aircraft. Both cameras used standard Air Force 24-inch focal-length lenses adjusted for maximum acuity by Baker. The development of the special rocking mount by Perkin-Elmer's Dr. Roderic M. Scott was a major factor in reducing the size and weight of the A-1 system, because the mount provided broad transverse coverage with a single lens, ending the need for two separate cameras.[16]

[16] *OSA History*, chap. 1, annex 3, pp. 1-3 (TS Codeword).

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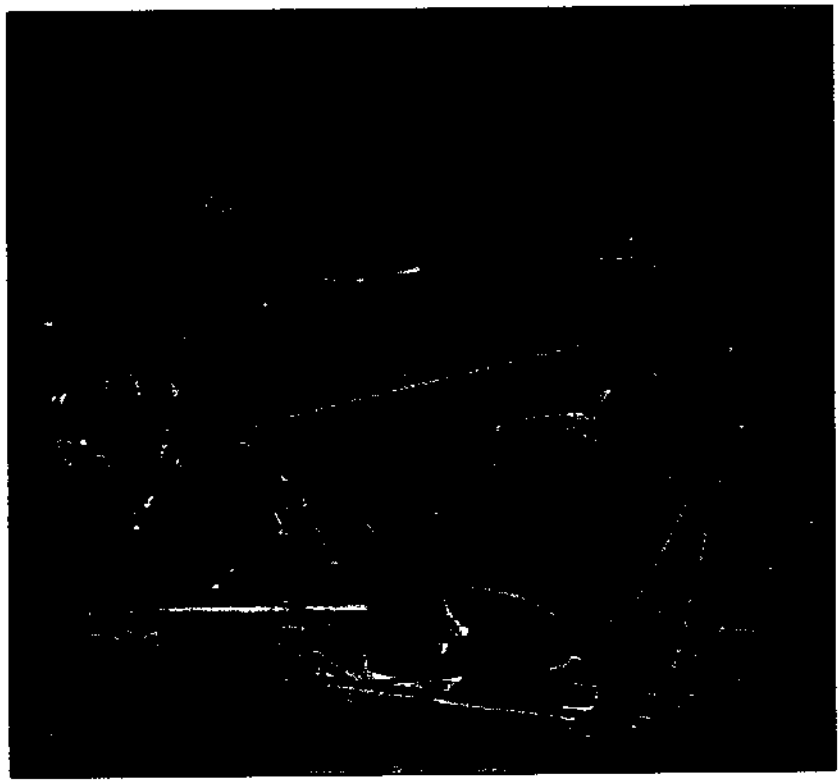

A-2 camera

U-2s equipped with the A-1 camera system also carried a Perkin-Elmer tracking camera using 2.75-inch film and a 3-inch lens. This device made continuous horizon-to-horizon photographs of the terrain passing beneath the aircraft. Because the A-1 system was new, it also included a backup camera system, a K-17 6-inch three-camera trimetrogon unit using 9-inch film.

While the A-1 system was still being developed, James Baker was already working on the next generation of lenses for high-altitude reconnaissance. Baker was a pioneer in using computers to synthesize optical systems. His software algorithms made it possible to model lens designs and determine in advance the effects that variations in lens curvatures, glass compounds, and lens spacings would have on rays of light passing through a lens. These "ray-tracing" programs required extensive computations, and, for this he turned to the most modern computer available, an IBM CPC (card-programmed calculator) installation at nearby Boston University.[17]

[17] Ibid., chap. 1, pp. 7-8 (TS Codeword).

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Baker's new lenses were used in a camera system known as the A-2, which returned to a trimetrogon arrangement because of problems with the A-1 system's rocking mount. The A-2 consisted of three separate K-38 framing cameras and 9.5-inch film magazines. One K-38 filmed the right oblique, another the vertical, and a third the left oblique. The A-2 system also included a 3-inch tracking camera. All A-2 cameras were equipped with the new 24-inch f/8.0 Baker-designed lenses. These were the first relatively large photographic objective lenses to employ several aspheric surfaces. James Baker personally ground these surfaces and made the final bench tests on each lens before releasing it to the Agency. These lenses were able to resolve 60 lines per millimeter, a 240-percent improvement over existing lenses.[18]

Once Baker and Scott had redesigned the 24-inch lens for the K-38 devices, they turned their attention to Baker's new camera design, known as the B model. It was a totally new concept, a high-resolution panoramic-type framing camera with a much longer 36-inch f/10.0 aspheric lens. The B camera was a very complex device that used a single lens to obtain photography from one horizon to the other, thereby reducing weight by having two fewer lenses and shutter assemblies than the standard trimetrogon configuration. Because its lens was longer than those used in the A cameras, the B camera achieved even higher resolution—100 lines per millimeter.

The B camera used an 18- by 18-inch format, which was achieved by focusing the image onto two counterrotating but overlapping 9. 5-inch wide strips of film. Baker designed this camera so that one film supply was located forward, the other aft. Thus, as the film supplies unwound, they counterbalanced each other and did not disturb the aircraft's center of gravity.

The B camera had two modes of operation. In mode I, the camera used a single lens to make seven unique exposures from 73.5° on the far right and far left obliques to vertical photos beneath the aircraft, effectively covering from horizon to horizon. Mode II narrowed the lateral coverage to 21.5° on either side of vertical. This increased the available number of exposures and almost doubled the camera's

[18] "Basic Configuration and Camera Data," 24 January 1956, OSA Records (TS Codeword); *OSA History*, chap. 5, annex 44 (TS Codeword).

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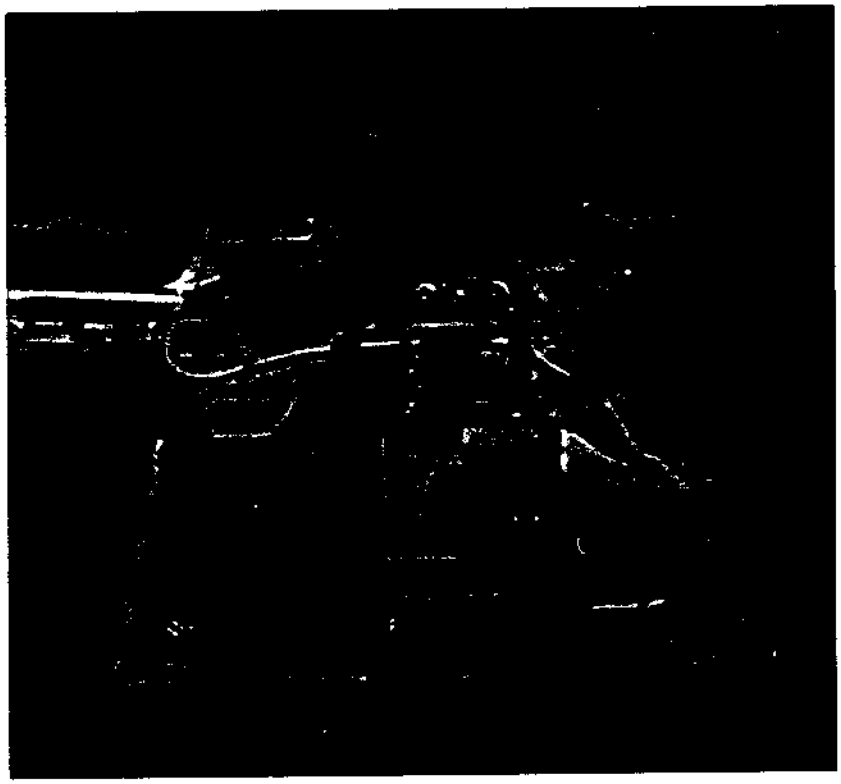

B camera

operating time. Three of the seven B-camera frames provided stereo coverage. The complex B cameras were engineered by Hycon's chief designer, William McFadden.[19]

James Baker's idea for the ultimate high-altitude camera was the C model that would have a 240-inch focal length. In December 1954, he made preliminary designs for folding the optical path using three mirrors, a prism, and an f/20.0 lens system. Before working out the details of this design, however, Baker flew to California in early January 1955 to consult with Kelly Johnson about the weight and space limitations of the U-2's payload compartment. Despite every effort to reduce the physical dimensions of the C camera, Baker needed an additional six inches of payload space to accommodate the bigger lens. When he broached this subject to Johnson, the latter replied, "Six more inches? I'd sell my grandmother for six more inches!" [20]

[19] Ibid.; Baker interview (S).

[20] Baker interview (S).

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Realizing that the 240-inch lens was both too large and too heavy for the camera bay, Baker scaled the lens down to a 200-inch f/16. 0 system. This was still too big. Further reductions followed, resulting by July 1955 in a 120-inch f/10.9 lens that met both the weight and space limitations. Later in the year, Baker decided to make the mirrors for the system out of a new, lightweight foamed silica material developed by Pittsburgh-Corning Glass Company. This reduced the weight significantly, and he was able to scale up the lens to a 180-inch f/13.85 reflective system for a 13- by 13-inch format. In the past, the calculations for such a complex camera lens would have taken years to complete, but thanks to Baker's ray-tracing computer program, he was able to accomplish the task in just 16 days.

When a C camera built by Hycon was flight-tested on 31 January 1957, project engineers discovered that its 180-inch focal length, which was five times longer than that of the B camera, made the camera very sensitive to aircraft vibration and led to great difficulty in aiming the C camera from altitudes above 68,000 feet. The engineers, therefore, decided to shelve the camera. More than five years later, a redesigned C camera was employed during the Cuban Missile Crisis in October 1962, but the results were not very satisfactory.

The failure of the C camera design was not a serious setback to the high-altitude reconnaissance program, because the B camera proved highly successful. Once initial difficulties with the film-transport system were overcome, the B camera became the workhorse of high-altitude photography. An improved version known as the B-2 is still in use. Both of the earlier A-model cameras were phased out after September 1958.

During the period when he was designing lenses for the CIA's overhead reconnaissance program, James Baker was also working on classified lens designs for the Air Force and unclassified designs for the Smithsonian Institution. To protect the security of Baker's work for the Agency, Herbert Miller of the Development Projects Staff told Baker to work on lenses for the U-2 in the open and not make any effort to classify the documents connected with the project. Miller believed that by not calling attention to the effort through the use of special security measures, the project could be completed faster and still not be compromised. This "hiding in the open" strategy proved very successful.[21]

[21] Ibid.

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In addition to the camera systems, the U-2 carried one other important item of optical equipment, a periscope. Designed by James Baker and built by Walter Baird of Baird Associates, the optical periscope helped pilots recognize targets beneath the aircraft and also proved to be a valuable navigational aid.[22]

PREPARATIONS FOR TESTING THE U-2

As work progressed in California on the airframe, in Connecticut on the engines, and in Boston on the camera system, the top officials of the Development Projects Staff flew to California and Nevada to search for a site where the aircraft could be tested safely and secretly. On 12 April 1955 Richard Bissell and Col. Osmund Ritland (the senior Air Force officer on the project staff) flew over Nevada with Kelly Johnson in a small Beechcraft plane piloted by Lockheed's chief test pilot, Tony LeVier. They spotted what appeared to be an airstrip by a salt flat known as Groom Lake, near the northeast corner of the Atomic Energy Commission's (AEC) Nevada Proving Ground. After debating about landing on the old airstrip, LeVier set the plane down on the lakebed, and all four walked over to examine the strip. The facility had been used during World War II as an aerial gunnery range for Army Air Corps pilots. From the air the strip appeared to be paved, but on closer inspection it turned out to have originally been fashioned from compacted earth that had turned into ankle-deep dust after more than a decade of disuse. If LeVier had attempted to land on the airstrip, the plane would probably have nosed over when the wheels sank into the loose soil, killing or injuring all of the key figures in the U-2 project.[23]

Bissell and his colleagues all agreed that Groom Lake would make an ideal site for testing the U-2 and training its pilots. Upon returning to Washington, Bissell discovered that Groom Lake was not part of the AEC proving ground. After consulting with Dulles, Bissell and Miller asked the Atomic Energy Commission to add the Groom Lake area to its real estate holdings in Nevada. AEC Chairman Adm. Lewis Strauss readily agreed, and President Eisenhower also approved the addition of this strip of wasteland, known by its map designation as Area 51, to the Nevada Test Site. The outlines of Area 51

[22] Information supplied by James Baker to Donald E. Welzenbach, 12 May 1986 (U).

[23] *OSA History*, chap. 8, pp. 1-2 (TS Codeword); Miller, *Lockheed U-2*, pp. 19-20.

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Area 51, the Ranch

are shown on current unclassified maps as a small rectangular area adjoining the northeast corner of the much larger Nevada Test Site. To make the new facility in the middle of nowhere sound more attractive to his workers, Kelly Johnson called it the Paradise Ranch, which was soon shortened to the Ranch.[24]

Although the dry lakebed could have served as a landing strip, project managers decided that a paved runway was needed so that testing could also take place during the times when rainwater runoff from nearby mountains filled the lake (at such times the base acquired yet another unofficial name, Watertown Strip). By July 1955 the base was ready, and Agency, Air Force, and Lockheed personnel began moving in.

[24] *OSA History*, chap. 8, pp. 2-6 (TS Codeword); Johnson, "Log for Project X," 25-29 April 1955; Clarence L. "Kelly" Johnson with Maggie Smith, *Kelly: More Than My Share of It All* (Washington, DC: Smithsonian Institute Press, 1985), p. 123.

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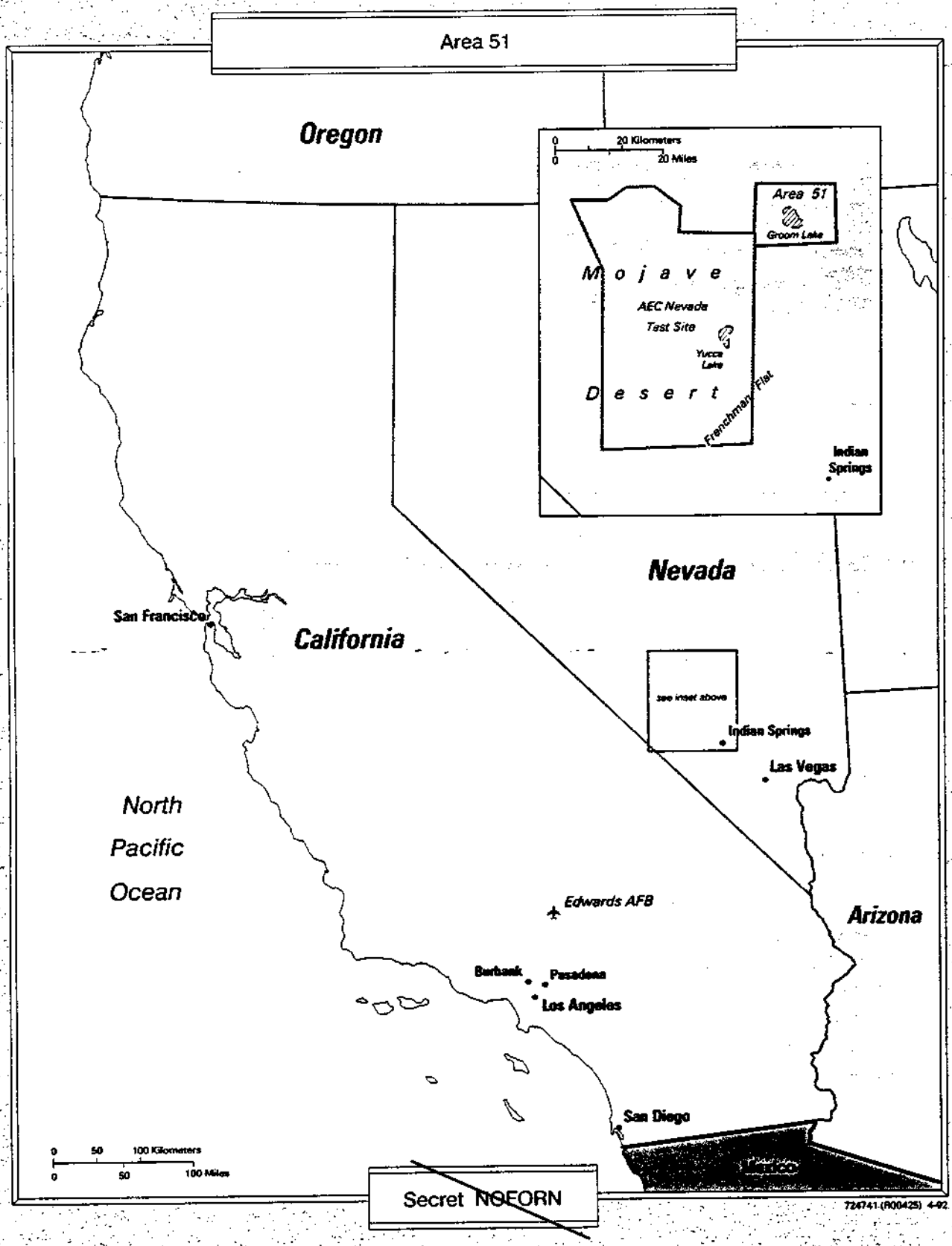

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SECURITY FOR THE U-2 PROJECT

On 29 April 1955, Richard Bissell signed an agreement with the Air Force and the Navy (which at that time was also interested in the U-2) in which the services agreed that the CIA "assumed primary responsibility for all security" for the overhead reconnaissance project (AQUATONE). From this time on, the CIA has been responsible for the security of overhead programs. This responsibility has placed a heavy burden on the Office of Security for establishing procedures to keep large numbers of contracts untraceable to the Central Intelligence Agency. The Office of Security has also had to determine which contractor employees require security clearances and has had to devise physical security measures for the various manufacturing facilities. Keeping the U-2 and subsequent overhead systems secret has been a time-consuming and costly undertaking.[25]

The most important aspect of the security program for the U-2 project was the creation of an entire new compartmented system for the product of U-2 missions. Access to the photographs taken by the U-2 would be strictly controlled, which often limited the ability of CIA analysts to use the products of U-2 missions.

The terminology used to describe U-2 aircraft and pilots also played a part in maintaining the security of the overhead reconnaissance program. To reduce the chances of a security breach, the Agency always referred to its high-altitude aircraft as "articles," with each aircraft having its own "article number." Similarly, the pilots were always called "drivers." In cable traffic the aircraft were known as KWEXTRA-00 (the two-digit number identified the precise aircraft; these numbers were not related to the three-digit article numbers assigned by the factory). The pilots were referred to as KWGLITTER-00 (the two-digit number identified the precise pilot). Thus, even if a message or document about overflight activities fell into unfriendly hands, the contents would simply refer to codewords or at worst to "articles" and "drivers," giving no indication of the nature of the program.[26]

Even the aircraft's onboard equipment required the involvement of CIA security planners. Thus, when Kelly Johnson ordered altimeters from the Kollman Instrument Company, he specified that the

[25] *OSA History*, chap. 7, pp. 4-6 (TS Codeword).

[26] Information supplied by James Cunningham to Donald E. Welzenbach (S).

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devices had to be calibrated to 80,000 feet. This immediately raised eyebrows at Kollman because its instruments only went to 45,000 feet. Agency security personnel quickly briefed several Kollman officials and produced a cover story that the altimeters were to be used on experimental rocket planes.[27]

THE CIA – AIR FORCE PARTNERSHIP

At the initial interagency meetings to establish the U-2 program in December 1954, the participants did not work out a clear delineation of responsibilities between the CIA and the Air Force. They agreed only that the Air Force would supply the engines and the Agency would pay for the airframes and cameras. With a myriad of details still unsettled, CIA and Air Force representatives began to work on an interagency agreement that would assign specific responsibilities for the program. These negotiations proved difficult. Discussions on this subject between DCI Allen Dulles and Air Force Chief of Staff Nathan Twining began in March 1955. Twining wanted SAC, headed by Gen. Curtis E. LeMay, to run the project once the planes and pilots were ready to fly, but Dulles opposed such an arrangement. The CIA-USAF talks dragged on for several months, with Twining determined that SAC should have full control once the aircraft was deployed. Eventually President Eisenhower settled the dispute. "I want this whole thing to be a civilian operation," the President wrote. "If uniformed personnel of the armed services of the United States fly over Russia, it is an act of war—legally—and I don't want any part of it."[28]

With the issue of control over the program settled, the two agencies soon worked out the remaining details. On 3 August 1955, Dulles and Twining met at SAC headquarters in Omaha to sign the basic agreement, titled "Organization and Delineation of Responsibilities—Project OILSTONE" (OILSTONE was the Air Force codename for the project). This pact gave the Air Force responsibility for pilot selection and training, weather information, mission plotting, and operational support. The Agency was responsible for cameras, security, contracting, film processing, and arrangements for foreign bases, and it also had a voice in the selection of pilots. All aeronautical aspects of the

[27] Ibid.

[28] *OSA History*, chap. 3, pp. 8-15 (TS Codeword); Beschloss, *Mayday*, pp. 105-107.

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project—the construction and testing of the aircraft—remained the exclusive province of Lockheed.[29]

As a result of this agreement, CIA remained in control of the program, but the Air Force played a very important role as well. As Richard Bissell later remarked about the U-2 project, "The Air Force wasn't just in on this as a supporting element, and to a major degree it wasn't in on it just supplying about half the government personnel; but the Air Force held, if you want to be precise, 49 percent of the common stock." [30]

Osmund J. Ritland

One of the first Air Force officers assigned to Project OILSTONE was Col. Osmund J. Ritland. He began coordinating Air Force activities in the U-2 program with Richard Bissell in December 1954. On 27 June 1955, Ritland became Bissell's deputy, although Air Force Chief of Staff Twining did not officially approve this assignment until 4 August, the day after the signing of the CIA–Air Force agreement. In March 1956, Colonel Ritland returned to the Air Force and was followed as deputy project director by Col. Jack A. Gibbs.

Another Air Force officer, Lt. Col. Leo P. Geary, joined the program in June 1955 and remained with it until August 1966, longer than any of the other project managers. Using the Air Force Inspector General's office as cover with the title of Project Officer, AFCIG-5, Geary served as the focal point for all Defense Department support to the U-2 and OXCART programs. His 11 years with the overhead reconnaissance projects provided a high degree of Air Force continuity.[31]

TECHNICAL CHALLENGES TO HIGH-ALTITUDE FLIGHT

To get the U-2 aircraft ready to fly, Lockheed engineers had to solve problems never before encountered. Among these problems was the need for a fuel that would not boil off and evaporate at the very high altitudes for which the aircraft was designed. Gen. James H. Doolittle

[29] *OSA History*, chap. 3, p. 15 and annex 14 (TS Codeword).

[30] Speech given by Richard Bissell at CIA Headquarters, 12 October 1965 (TS Codeword).

[31] Brig. Gen. Leo A. Geary (USAF-Ret.), interview by Donald E. Welzenbach, tape recording, 3 April 1986 (S); *OSA History*, chap. 3, p. 3 (TS Codeword).

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Leo P. Geary

(USAF, Ret.), a vice president of the Shell Oil Company who had long been involved in overhead reconnaissance (most recently as a member of the Technological Capabilities Panel), arranged for Shell to develop a special low-volatility, low-vapor-pressure kerosene fuel for the craft. The result was a dense mixture, known as LF-1A, JP-TS (thermally stable), or JP-7, with a boiling point of 300°F at sea level. Manufacturing this special fuel required petroleum byproducts that Shell normally used to make its "Flit" fly and bug spray. In order to produce several hundred thousand gallons of LF-1A for the U-2 project in the spring and summer of 1955, Shell had to limit the production of Flit, causing a nationwide shortage. Because of the new fuel's density, it required special tanks and modifications to the aircraft's fuel-control and ignition systems.[32]

Even more important than the problem of boiling fuel was the problem of boiling blood, namely the pilot's. At altitudes above 65,000 feet, fluids in the human body will vaporize unless the body can be kept under pressure. Furthermore, the reduced atmospheric pressure placed considerable stress on the pilot's cardiovascular system and did not provide adequate oxygenation of the blood. Keeping the pilot alive at the extreme altitudes required for overflights therefore called for a totally different approach to environmental equipment; it required a system that could maintain pressure over much of the pilot's body. The technology that enabled U-2 pilots to operate for extended periods in reduced atmospheric pressure would later play a major role in the manned space program.

Advising the Agency on high-altitude survival were two highly experienced Air Force doctors, Col. Donald D. Flickinger and Col. W. Randolph Lovelace, II. Dr. Lovelace had begun his research on high-altitude flight before World War II and was a coinventor of the standard Air Force oxygen mask. In the early 1950s, he and Flickinger made daring parachute jumps from B-47 bombers to test pilot-survival gear under extreme conditions. Flickinger served as the medical adviser to Project AQUATONE for almost a decade.[33]

Flickinger and Lovelace suggested that the Agency ask the David Clark Company of Worcester, Massachusetts, manufacturer of environmental suits for Air Force pilots, to submit designs for more

[32] Land interview (TS Codeword); Bissell interview (S); James A. Cunningham, Jr., interview by Donald E. Welzenbach, Washington, DC, tape recording, 4 October 1983 (TS Codeword).

[33] OSA History, chap. 10, pp. 29-34 (TS Codeword).

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MC-2 partial-pressure suit (seen on pilot Francis Gary Powers)

advanced gear for the U-2 pilots. David Clark expert Joseph Ruseckas then developed a complex life-support system, which was the first partially pressurized "spacesuit" for keeping humans alive for lengthy periods at ultrahigh altitudes. The effort to provide a safe environment for pilots at high altitudes also involved the Firewel Company of Buffalo, New York, which pressurized the U-2 cockpit to create an interior environment equivalent to the air pressure at an altitude of 28,000 feet. The system was designed so that, if the interior cockpit pressure fell below the 28,000-feet level, the pilot's suit would automatically inflate. In either case, he could obtain oxygen only through his helmet.[34]

[34] Ibid., chap. 5, p. 19 (TS Codeword).

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The early models of these MC-2 and MC-3 partial-pressure suits were very uncomfortable for the pilots. To prevent loss of pressure, the heavy coverall had to fit tightly at the wrists and ankles (in the early models of these suits, the feet were not included in the pressurization scheme). The pilot had to wear gloves and a heavy helmet that tended to chafe his neck and shoulders and was prone to fogging. Problems with the pilot life-support system were believed to have been the cause of several early crashes of the U-2.

Having gotten a pilot into this bulky suit and shoehorned him into his seat in the cockpit, the next problem was how to get him out in an emergency. The U-2 cockpit was very small, and the early models did not have an ejection seat. Even after an ejection seat was installed, pilots were reluctant to use it because they were afraid they would lose their legs below the knees when they were blown out of the cockpit. To save weight, the first pilot's seat was extremely simple with no height adjustment mechanism. Designed for pilots of above-average height, the seat could be adjusted for shorter pilots by inserting wooden blocks beneath the seat to raise it. In later versions of the aircraft, Kelly Johnson added a fully adjustable seat.[35]

The Air Force undertook bailout experiments at high altitudes from balloons in the autumn of 1955 to determine if the suit designed for the U-2 pilot would also protect him during his parachute descent once he was separated from the life-support mechanisms inside the aircraft. To avoid getting the "bends" during such descents or during the long flights, pilots had to don their pressure suits and begin breathing oxygen at least 90 minutes before takeoff so that their bodies would have time to dissipate nitrogen. This procedure was known as prebreathing. Once the pilots were in their suits, eating and drinking became a major problem, as did urination. The first model of the pressure suit, used by Lockheed test pilots, made no provision for urination. A subsequent model required the pilot to be catheterized before donning his flying suit. This method of permitting urination during flight proved very uncomfortable and, by the autumn of 1955, was replaced with an external bladder arrangement that made the catheter unnecessary. To reduce elimination, pilots ate a low-bulk, high-protein diet on the day before and the morning of each mission.

[35] Lecture by Maj. Gen. Patrick J. Halloran (former Air Force U-2 pilot) at the National Air & Space Museum, 24 April 1986 (U).

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Pilot undergoing prebreathing

To prevent pilots from becoming dessicated during the long missions—a condition aggravated by their having to breathe pure oxygen—provision was made for them to drink sweetened water. This was accomplished by providing a small self-sealing hole in the face mask through which the pilot could push a strawlike tube attached to the water supply. Project personnel also pioneered in the development of ready-to-eat foods in squeezable containers. These were primarily bacon- or cheese-flavored mixtures that the pilot could squeeze into his mouth using the self-sealing hole in the face mask. Despite all these precautions, U-2 pilots normally lost 3 to 6 pounds of body weight during an eight-hour mission.[36]

Food and water were not the only items provided to pilots on overflight missions: they also received a suicide pill. During the early 1950s, tales of Soviet secret police torture of captured foreign agents

[36] Information supplied by James Cunningham and former U-2 pilots Carmine Vito, Hervey Stockman, Jacob Kratt, and Glendon Dunaway to Donald E. Welzenbach, May 1986.

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led Bissell and Cunningham to approach Dr. Alex Batlin of Technical Services Division in the Directorate of Plans[37] for ideas to help "captured" U-2 pilots avoid such suffering. Batlin suggested the method used by Nazi war criminal Hermann Goering, a thin glass ampule containing liquid potassium cyanide. He said a pilot had only to put the ampule in his mouth and bite down on the glass; death would follow in 10 to 15 seconds. Project AQUATONE ordered six of the poison ampules, called L-pills, and offered one to each pilot just before a mission. It was up to each pilot to decide if he wanted to take an L-pill with him. Some did; most did not.[38]

DELIVERY OF THE FIRST U-2

On 25 July, less than eight months after the go-ahead call from Trevor Gardner, Kelly Johnson was ready to deliver the first aircraft, known as article 341, to the "Paradise Ranch" site. With its long, slender wings and tail assembly removed, the aircraft was wrapped in tarpaulins, loaded aboard a C-124, and flown to Groom Lake, where Lockheed mechanics spent the next six days readying the craft for its maiden flight.

Before "Kelly's Angel" could actually take to the air, however, it needed an Air Force designator. Col. Allman T. Culbertson from the Air Force's Office of the Director of Research and Development pointed this out to Lieutenant Colonel Geary in July 1955, and the two officers then looked through the aircraft designator handbook to see what the options were. They decided that they could not call the project aircraft a bomber, fighter, or transport plane, and they did not want anyone to know that the new plane was for reconnaissance, so Geary and Culbertson decided that it should come under the utility aircraft category. At the time, there were only two utility aircraft on the books, a U-1 and a U-3. Geary told Culbertson that the Lockheed CL-282 was going to be known officially as the U-2.[39]

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[37] At the time this Directorate was known as the Deputy Directorate/Plans, with the slash interpreted to mean either "for" or "of." Terminology for the major subdivisions of the CIA and their directors has varied over the past four decades. For the sake of consistency, all titles of Directorates and Deputy Directors have been placed in the current Agency format: the organization is known as the "Directorate of X" and the head is known as the "Deputy Director for X."

[38] Information supplied by James Cunningham to Donald E. Welzenbach; Sayre Stevens, Memorandum for the Record, "Discussion with Dr. Alex Batlin Re Project MKNAOMI," July 1975 (S).

[39] Geary interview (S).

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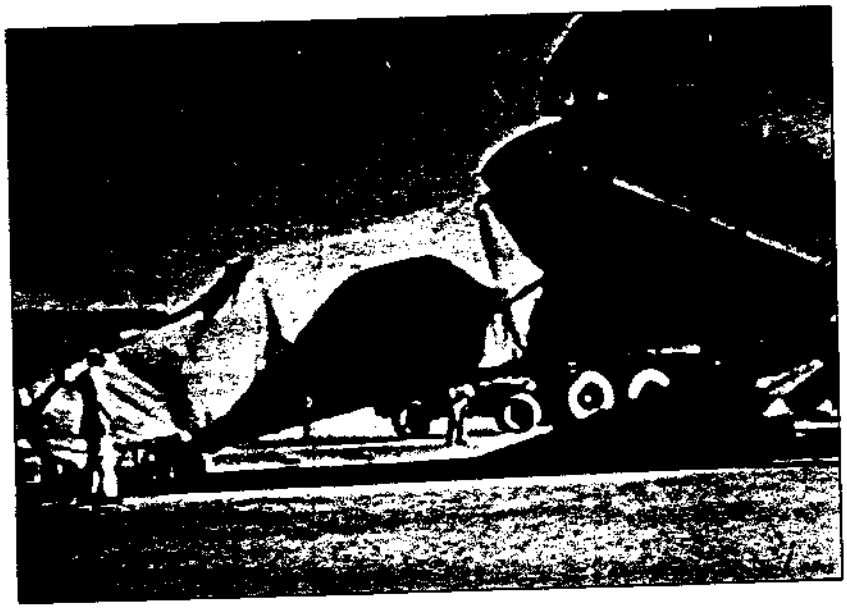

Arrival of U-2 prototype at Area 51 (left); Article 341, the U-2 prototype (below)

Johnson had designed the U-2 to use the Pratt & Whitney (P&W) J57/P-31 engine, which developed 13,000 pounds of thrust and weighed 3,820 pounds, giving it a power-to-weight ratio of 3.4:1. When the U-2 first took to the air, however, these engines were not available because the entire production was needed to power specially configured Canberra RB-57Ds for the Air Force. The first U-2s therefore used P&W J57/P-37 engines, which were 276 pounds heavier and delivered only 10,200 pounds of thrust at sea level; the resulting

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power-to-weight ratio of 2.7:1 was almost 20 percent less efficient than the preferred P-31 version.[40]

To conduct lengthy missions over hostile territory, the U-2 needed to carry a large amount of fuel. Kelly Johnson used a "wet-wing" design for the U-2, which meant that fuel was not stored in separate fuel tanks but rather in the wing itself. Each wing was divided into two leak-proof compartments, and fuel was pumped into all the cavities within these areas; only the outer 6 feet of the wings were not used for fuel storage. The U-2 also had a 100-gallon reserve tank in its nose. Later, in 1957, Johnson increased the fuel capacity of the U-2 by adding 100-gallon "slipper" tanks under each wing, projecting slightly ahead of the leading edge.

One of the most important considerations in the U-2's fuel system was the need to maintain aircraft trim as the fuel was consumed. The aircraft therefore contained a complex system of feed lines and valves draining to a central sump, which made it impossible to provide the pilot with an empty/full type of fuel gauge. None of the first 50 U-2s had normal fuel gauges. Instead there were mechanical fuel totalizer/counters. Before the start of a mission, the ground crew set the counters to indicate the total amount of fuel in the wings, and then a flow meter subtracted the gallons of fuel actually consumed during the flight. The pilot kept a log of the fuel consumption shown by the counters and compared it with estimates made by mission planners for each leg of the flight. As a double check, U-2 pilots also kept track of their fuel consumption by monitoring airspeed and time in the air. Most pilots became quite expert at this. Several who did not came up short of their home base during the 20 years these planes were flown.[41]

INITIAL TESTING OF THE U-2

Preliminary taxi trials began on 27 July 1955, when the first run down the newly completed runway took the plane to 50 knots. Lockheed's chief test pilot, Tony LeVier, was at the controls. A second taxi trial

[40] *OSA History*, chap. 8, p. 13 (TS Codeword).

[41] Information supplied by Norman Nelson, former director of Lockheed's Skunk Works, to Donald E. Welzenbach, 14 March 1986 (U); Miller, *Lockheed U-2*, pp. 77, 96.

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followed on 1 August. LeVier accelerated to 70 knots and began to try the ailerons. "It was at this point that I became aware of being airborne," LeVier noted afterward, "which left me with utter amazement, as I had no intentions whatsoever of flying. I immediately started back toward the ground, but had difficulty determining my height because the lakebed had no markings to judge distance or height. I made contact with the ground in a left bank of approximately 10 degrees." The U-2 bounced back into the air, but LeVier was able to bring it back down for a second landing. He then applied the brakes with little effect, and the aircraft rolled for a long distance before coming to a stop.[42]

Bissell, Cunningham, and Johnson saw the aircraft fall and bounce. Leaping into a jeep, they roared off toward the plane. They signaled to LeVier to climb out and then used fire extinguishers to put out a fire in the brakes. At a debriefing session that followed, LeVier complained about the poor performance of the brakes and the absence of markings on the runway. Damage to the prototype U-2 was very minor: blown tires, a leaking oleostrut on the undercarriage, and damaged brakes. This unplanned flight was but a foretaste of the airworthiness of the U-2. New pilots all had difficulty in getting the U-2's wheels on the ground because at low speeds it would remain in ground effect and glide effortlessly above the runway for great distances.

Taxi trials continued for one more day and were followed by the first planned flight on 4 August 1955. LeVier was again at the controls and had been instructed by Kelly Johnson to land the U-2 by making initial contact with the main or forward landing gear and letting the plane settle back on the rear wheel. LeVier had disagreed with this approach, believing that the U-2 would bounce if he tried to touch down on the forward gear first. After flying the aircraft up to 8,000 feet, LeVier leveled off and began cycling the landing gear up and down; then he tested the flaps and the plane's stability and control systems. Finally, LeVier made his first landing approach. As the U-2 settled down, the forward landing gear touched the runway and the plane skipped and bounced into the air. LeVier made a second attempt to land front wheels first, and again the plane bounded into the air.

[42] Transcripts of the test pilots' and observers' comments on the initial U-2 test flights have been published in "Secret First Flight of Article 001," *Spyplanes* vol. 2, 1988, pp. 64-71, 82-85.

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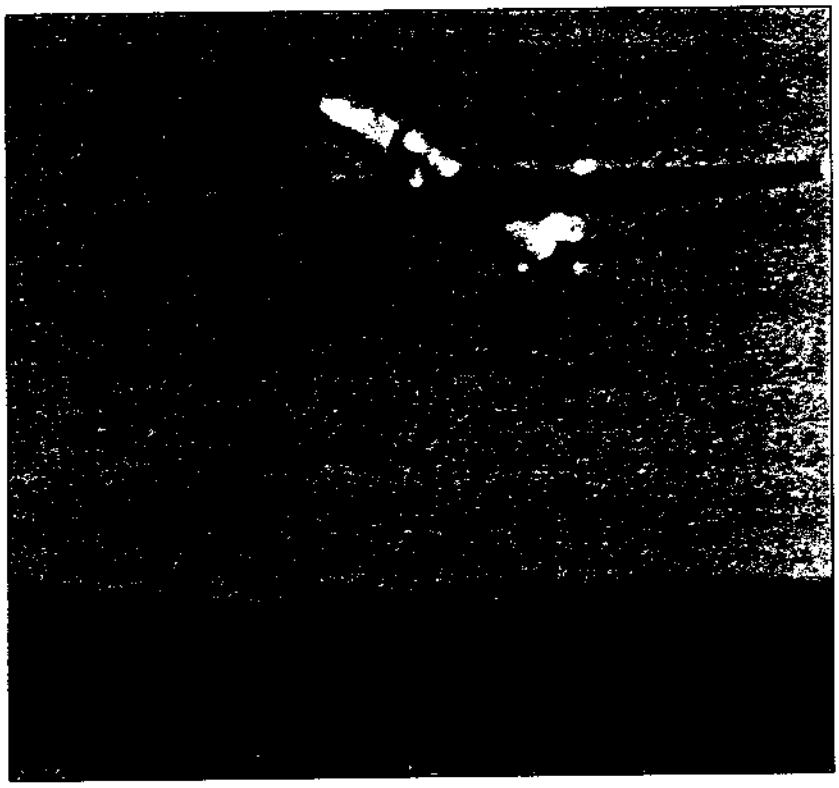

First flight of the U-2, 4 August 1955

With Kelly Johnson watching from a chase plane and giving a constant stream of instructions, LeVier made three more unsuccessful landing attempts. With the light fading and a thunderstorm fast approaching from the mountains to the west, LeVier made one last approach using the method he had advocated: letting the aircraft touch on its rear wheel first. This time the U-2 made a near-perfect landing, which came just in the nick of time. Ten minutes later, the thunderstorm began dumping an unheard-of 2 inches of rain, flooding the dry lakebed and making the airstrip unusable.[43]

Now that the first problems in flying and landing the U-2 had been worked out, Kelly Johnson scheduled the "official" first flight for 8 August 1955. This time outsiders were present, including Richard Bissell, Col. Osmond Ritland, Richard Horner, and Garrison Norton. The U-2 flew to 32,000 feet and performed very well. Kelly Johnson had met his eight-month deadline.[44]

[43] Ibid., pp. 21-22; Johnson, "Log for Project X," 4 August 1955.

[44] Johnson, "Log for Project X," 8 August 1955.

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LeVier made an additional 19 flights in article 341 before moving on to other Lockheed flight test programs in early September. This first phase of U-2 testing explored the craft's stall envelope, took the aircraft to its maximum stress limit (2.5 g's), and explored its speed potential. LeVier soon flew the aircraft at its maximum speed of Mach 0.85. Flight tests continued, with the U-2 ascending to altitudes never before attained in sustained flight. On 16 August LeVier took the aircraft up to 52,000 feet. In preparation for this flight, the 42-year-old test pilot completed the Air Force partial-pressure suit training program, becoming the oldest pilot to do so. Testing at even higher altitudes continued, and on 8 September the U-2 reached its initial design altitude of 65,600 feet.[45]

On 22 September 1955, the U-2 experienced its first flameout at 64,000 feet—more than 12 miles up. After a brief restart, the J57/P-37 engine again flamed out at 60,000 feet, and the aircraft descended to 35,000 feet before the engine could be relit. Engineers from Pratt & Whitney immediately set to work on this problem. The P-37 model engine had significantly poorer combustion characteristics than the preferred but unavailable P-31 version and therefore tended to flame out at high altitudes. Combustion problems usually became apparent as the U-2 began the final part of its climb from 57,000 to 65,000 feet, causing pilots to refer to this area as the "badlands" or the "chimney." Flameouts bedeviled the U-2 project until sufficient numbers of the more powerful P-31 engines became available in the spring of 1956.[46]

Meanwhile, with the airworthiness of the U-2 airframe proven, Lockheed set up a production line in the Skunk Works, but delivery of even the second-choice J57/P-37 engines became a major problem. Pratt & Whitney's full production capacity for these engines for the next year was contracted to the Air Force for use in F-100 fighters and KC-135 tankers. Colonel Geary, with the help of a colleague in the Air Force Materiel Command, managed to arrange the diversion of a number of these engines from a shipment destined for Boeing's KC-135 production line, making it possible to continue building the U-2s.[47]

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[45] *OSA Chronology*, p. 7 (TS Codeword); Miller, *Lockheed U-2*, p. 22.

[46] *OSA History*, chap. 8, pp. 12-14 (TS Codeword).

[47] Geary interview (S).

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As the deliveries of U-2 airframes to the testing site increased, a major logistic problem arose: how to transfer Lockheed employees from Burbank to Area 51 without arousing a great deal of curiosity. The project staff decided that the simplest approach would be to fly the essential personnel to the site on Monday morning and return them to Burbank on Friday evening. Frequent flights were also necessary to bring in supplies and visitors from contractors and headquarters. Therefore, a regularly scheduled Military Air Transport Service (MATS) flight using a USAF C-54 aircraft began on 3 October 1955. James Cunningham promptly dubbed this activity "Bissell's Narrow-Gauge Airline." Less than seven weeks after it started, a MATS aircraft bound for Area 51 crashed on 17 November, killing all 14 persons aboard the plane, including the Project Security Officer, CIA's William H. Marr, four members of his staff, and personnel from Lockheed and Hycon. This crash represented the greatest single loss of life in the entire U-2 program.[48]

U-2s, UFOs, AND OPERATION BLUE BOOK

High-altitude testing of the U-2 soon led to an unexpected side effect—a tremendous increase in reports of unidentified flying objects (UFOs). In the mid-1950s, most commercial airliners flew at altitudes between 10,000 and 20,000 feet and military aircraft like the B-47s and B-57s operated at altitudes below 40,000 feet. Consequently, once U-2s started flying at altitudes above 60,000 feet, air-traffic controllers began receiving increasing numbers of UFO reports.

Such reports were most prevalent in the early evening hours from pilots of airliners flying from east to west. When the sun dropped below the horizon of an airliner flying at 20,000 feet, the plane was in darkness. But, if a U-2 was airborne in the vicinity of the airliner at the same time, its horizon from an altitude of 60,000 feet was considerably more distant, and, being so high in the sky, its silver wings would catch and reflect the rays of the sun and appear to the airliner pilot, 40,000 feet below, to be fiery objects. Even during daylight hours, the silver bodies of the high-flying U-2s could catch the sun and cause reflections or glints that could be seen at lower altitudes and even on the ground. At this time, no one believed manned flight was possible above 60,000 feet, so no one expected to see an object so high in the sky.

[48] *OSA History*, chap. 7, pp. 17-19 (TS Codeword).

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Not only did the airline pilots report their sightings to air-traffic controllers, but they and ground-based observers also wrote letters to the Air Force unit at Wright Air Development Command in Dayton charged with investigating such phenomena. This, in turn, led to the Air Force's Operation BLUE BOOK. Based at Wright-Patterson, the operation collected all reports of UFO sightings. Air Force investigators then attempted to explain such sightings by linking them to natural phenomena. BLUE BOOK investigators regularly called on the Agency's Project Staff in Washington to check reported UFO sightings against U-2 flight logs. This enabled the investigators to eliminate the majority of the UFO reports, although they could not reveal to the letter writers the true cause of the UFO sightings. U-2 and later OXCART flights accounted for more than one-half of all UFO reports during the late 1950s and most of the 1960s.[49]

HIRING U-2 PILOTS

In authorizing the U-2 project, President Eisenhower told DCI Dulles that he wanted the pilots of these planes to be non-US citizens. It was his belief that, should a U-2 come down in hostile territory, it would be much easier for the United States to deny any responsibility for the activity if the pilot was not an American.

The initial effort to find U-2 pilots was assigned to the Directorate of Plans Air/Maritime Division (AMD). The DDP had excellent contacts [redacted] AMD operatives [redacted] asked that discreet inquiries be made to see if any [redacted] fliers were interested in a high-paying covert project. [redacted] brought to the United States for training. Meanwhile, AMD hired an [redacted] flier residing in England, and he also came to the United States for training.

In theory the use of foreign pilots seemed quite logical; in practice it did not work out. The [redacted] and could only fly light aircraft. Language was also a barrier for the [redacted] although several were good fliers. Because Lieutenant Colonel Geary had taken a class of [redacted] through flying school at Randolph AFB in 1950, he got the job of training the [redacted]

[49] Information supplied by James Cunningham to Donald E. Welzenbach (U).

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recruits in mid-1955. Geary arranged for an Air Force officer of [redacted] to stay with the group during a preliminary training program at Luke Air Force Base. The plan to use foreign pilots soon ran into trouble when only [redacted] pilots passed the school and reported to Area 51. They made only a few flights in the U-2, and by the autumn of 1955 they were out of the program.[50]

Even before the elimination of the [redacted] it was clear that there would not be enough trained foreign pilots available in time for deployment. Bissell therefore had to start the search for U-2 pilots all over again. Lt. Gen. Emmett (Rosy) O'Donnell, the Air Force's Deputy Chief of Staff for Personnel, authorized the use of Air Force pilots and provided considerable assistance in the search for pilots who met the high standards established by the Agency and the Air Force. The search included only SAC fighter pilots who held reserve commissions. The use of regular Air Force pilots was not considered because of the complexities involved in having them resign from the Air Force, a procedure that was necessary in order to hire them as civilians for the AQUATONE project.

SAC pilots interested in the U-2 project had to be willing to resign from the Air Force and assume civilian status—a process known as sheep-dipping—in order to conduct the overflights. Although Air Force pilots were attracted by the challenge of flying U-2s over hostile territory, they were reluctant to leave the service and give up their seniority. To overcome pilots' reluctance, the Agency offered handsome salaries, and the Air Force promised each pilot that, upon satisfactory conclusion of his employment with the Agency, he could return to his unit. In the meantime, he would be considered for promotion along with his contemporaries who had continued their Air Force careers.[51]

The selection process for Agency U-2 pilots was very rigorous. Because of the strain involved in flying at extreme altitudes for long periods of time, painstaking efforts were made to exclude all pilots who might be nervous or unstable in any way. The physical and psychological screening of potential U-2 pilots was conducted by the Lovelace Foundation for Medical Education and Research in Albuquerque, New Mexico, under a contract signed with the CIA on

[50] *OSA History*, chap. 10, pp. 1-10 (TS Codeword); Geary interview (S).

[51] *OSA History*, chap. 10, pp. 5-6 (TS Codeword); Geary interview (S); Francis Gary Powers with Curt Gentry, *Operation Overflight* (New York: Holt, Rinehart, and Wilson, 1970), pp. 25-27.

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28 November 1955. The CIA's insistence on more stringent physical and mental examinations than those used by the Air Force to select pilots for its U-2 fleet resulted in a higher rejection rate of candidates. The Agency's selection criteria remained high throughout its manned overflight program and resulted in a much lower accident rate for CIA U-2 pilots than for their counterparts in the Air Force program.[52]

PILOT TRAINING

Even before the recruiting effort got under way, the Air Force and CIA began to develop a pilot training program. Under the terms of the OILSTONE agreement between the Agency and the Air Force, responsibility for pilot training lay with SAC. This essential activity was carried out under the supervision of Col. William F. Yancey, who was assigned to March AFB and flew to nearby Area 51 each day. Colonel Yancey was in charge of six SAC pilots who were to be trained by Lockheed test pilots to fly the U-2. Once they became qualified, these SAC pilots would become the trainers for the "sheep-dipped" former Reserve SAC pilots, who would fly U-2 missions for the CIA.

The original U-2 test pilot, Tony LeVier, trained several other Lockheed test pilots in the difficult art of flying the U-2. Eventually there were enough trained Lockheed pilots available to test the aircraft coming off the assembly line and also train the SAC pilots. Training was difficult because there was no two-seat model of the U-2. All instruction had to be given on the ground before takeoff and then over the radio once the craft was airborne. Almost 15 years elapsed before a two-seat U-2 was available for training new pilots. Despite the difficulties involved in training U-2 pilots, Colonel Yancey had a cadre of six qualified Air Force U-2 pilots by September 1955. These six were now ready to train the Agency's pilots.[53]

Training pilots was not easy because the U-2 was a mixture of glider and jet. Although those chosen for the overflight program were all qualified fighter pilots, they now had to learn to fly the delicate U-2. Its large wings had tremendous lift but were also very fragile

[52] *OSA History*, chap. 10, pp. 5-6; chap. 5, p. 18 (TS Codeword).

[53] *OSA History*, chap. 11, pp. 1-7 (TS Codeword).

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and could not survive the stresses of loops and barrel rolls. Moreover, the original U-2s were placarded, which meant that they could not be flown at sea level faster than 190 knots in smooth air or 150 knots in rough air. At operational altitude, where the air was much less dense, they could not exceed Mach 0.8 (394 knots). Speeds in excess of these limits could cause the wings or tail section to fall off.

Airspeed was a very critical factor for the U-2. At maximum altitude only 6 knots separated the speeds at which low-speed stall and high-speed buffet occurred. Pilots called this narrow range of acceptable airspeeds at maximum altitude the "coffin corner" because at this point the U-2 was always on the brink of falling out of the sky. If the aircraft slowed beyond the low-speed stall limit, it would lose lift and begin to fall, causing stresses that would tear the wings and tail off. A little too much speed would lead to buffeting, which would also cause the loss of the wings or tail. Flying conditions such as these required a U-2 pilot's full attention when he was not using the autopilot. Airspeed was such a critical factor that Kelly Johnson added a vernier adjustment to the throttle to allow the pilot to make minute alterations to the fuel supply.[54]

Among the unique devices developed for the U-2 was a small sextant for making celestial "fixes" during the long overflights. Because cloud cover often prevented U-2 pilots from locating navigational points on the earth through the periscope, the sextant turned out to be the pilots' principal navigational instrument during the first three years of deployment. When clouds were not a factor, however, the periscope proved highly accurate for navigation. During the final tests before the aircraft became operational, U-2 pilots found they could navigate by dead reckoning with an error of less than 1 nautical mile over a 1,000-nm course.[55]

FINAL TESTS OF THE U-2

Flight-testing of the U-2 continued throughout the fall and winter of 1955-56 in order to test all the various systems. By mid-January 1956, SAC officials were so impressed that they also wanted to purchase a fleet of these planes. On 30 January, DCI Dulles agreed to

[54] Cunningham interview (TS Codeword); John Parangosky, interview by Donald E. Welzenbach, tape recording, 6 March 1986 (S); information supplied by James Cherbonneaux to Donald E. Welzenbach (S).

[55] Cunningham interview (TS Codeword).

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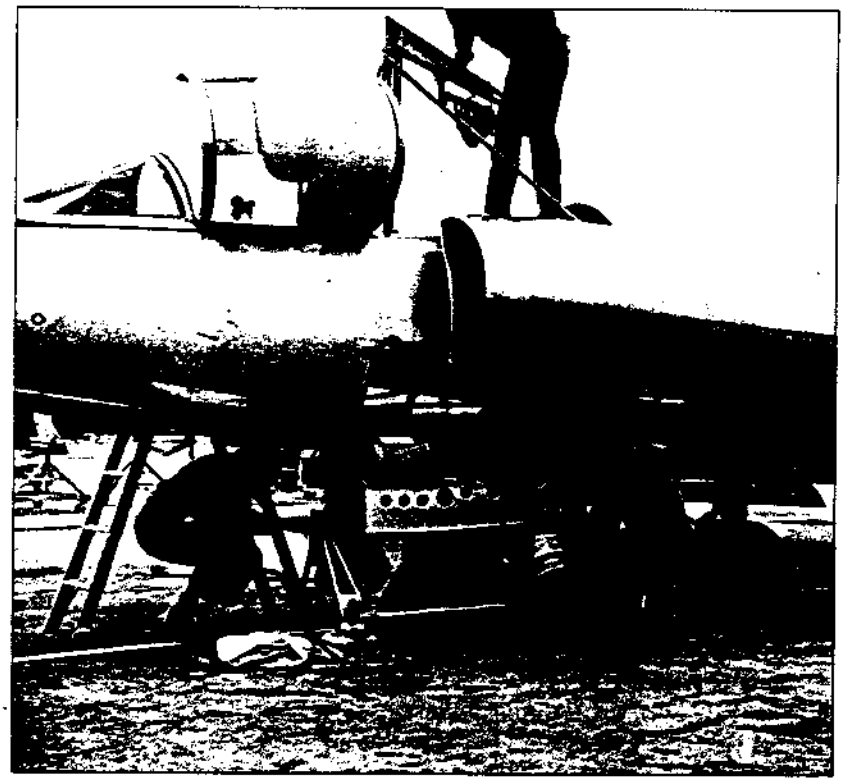

A-2 camera being installed in U-2

have CIA act as executive agent for this transaction, which the Air Force called Project DRAGON LADY. To maintain secrecy, the Air Force transferred funds to the CIA, which then placed an order with Lockheed for 29 U-2s in configurations to be determined by the Air Force. The Air Force later bought two more U-2s, for a total of 31. The aircraft purchased for the Air Force were known as the Follow-On Group, which was soon shortened to FOG.[56]

Once enough pilots had been trained, Project AQUATONE managers concentrated on checking out the complete U-2 system: planes, pilots, navigation systems, life-support systems, and cameras. From 10 through 14 April 1956, U-2s equipped with A-2 cameras took off from Area 51 and made eight overflights of the United States in order to test the various flight and camera systems as part of the standard Air Force Operational Readiness Inspection. Colonel Yancey and his detachment served as observers during this weeklong exercise.

[56] *OSA History*, chap. 5, pp. 25-26 (TS Codeword).

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U-2 detachment in formation over Nevada

Colonel Yancey's group carefully examined all aspects of the U-2 unit from flight crews to camera technicians and mission programmers. When the exercise was over, Yancey reported that the detachment was ready for deployment. He then briefed a high-level Pentagon panel that included the Secretary of the Air Force and the Chief of Air Staff. These officials concurred with Yancey's determination that the U-2 was ready for deployment.[57]

During these final tests in the spring of 1956, the U-2 once again demonstrated its unique airworthiness. On 14 April 1956, James Cunningham was sitting in his office in Washington when he received a call from Area 51 informing him that a westward-bound U-2 had experienced a flameout over the Mississippi River at the western border of Tennessee. After restarting his engine, the pilot reported a second flameout and engine vibrations so violent that he was unable to get the power plant to start again. Early in the program Bissell and Ritland had foreseen such an emergency and, with the cooperation of the Air Force, had arranged for sealed orders to be delivered to every airbase in the continental United States giving instructions about what to do if a U-2 needed to make an emergency landing.

Cunningham had the project office ask the pilot how far he could glide so they could determine which SAC base should be alerted. The pilot, who by this time was over Arkansas, radioed back that, given the prevailing winds and the U-2's 21:1 glide ratio, he thought he could reach Albuquerque, New Mexico. Within minutes Cunningham was on the phone to Colonel Geary in the Pentagon, who then had the Air Force's Assistant Director of Operations, Brig. Gen. Ralph E.

[57] Bissell interview (S); *OSA History*, chap. 11, pp. 15-16 (TS Codeword).

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Koon, call the commander of Kirtland AFB near Albuquerque. General Koon told the base commander about the sealed orders and explained that an unusual aircraft would make a deadstick landing at Kirtland within the next half hour. The general then instructed the base commander to have air police keep everyone away from the craft and get it inside a hanger as quickly as possible.

After a half hour passed, the base commander called the Pentagon to ask where the crippled aircraft was. As he was speaking, the officer saw the U-2 touch down on the runway and remarked, "It's not a plane, it's a glider!" Even more surprised were the air police who surrounded the craft when it came to a halt. As the pilot climbed from the cockpit in his "space" suit, one air policeman remarked that the pilot looked like a man from Mars. The pilot, Jacob Kratt, later reported to Cunningham that, from the beginning of the first flameout until the landing at Albuquerque, the U-2 had covered over 900 miles, including more than 300 by gliding.[58]

Aside from this extraordinary gliding ability, however, the U-2 was a very difficult aircraft to fly. Its very light weight, which enabled it to achieve extreme altitude, also made it very fragile. The aircraft was also very sleek, and it sliced through the air with little drag. This feature was dangerous, however, because the U-2 was not built to withstand the G-forces of high speed. Pilots had to be extremely careful to keep the craft in a slightly nose-up attitude when flying at operational altitude. If the nose dropped only a degree or two into the nose-down position, the plane would gain speed at a dramatic rate, exceeding the placarded speed limit in less than a minute, at which point the aircraft would begin to come apart. Pilots, therefore, had to pay close attention to the aircraft's speed indicator because at 65,000 feet there was no physical sensation of speed, without objects close at hand for the eye to use as a reference.[59]

THREE FATAL CRASHES IN 1956

The first fatality directly connected with flying the U-2 occurred on 15 May 1956, when test pilot Wilburn S. Rose, flying article 345A, had trouble dropping his pogos, the outrigger wheels that keep the

[58] Bissell interview (S); Cunningham interview (TS Codeword); Brig. Gen. Leo A. Geary, interview by Gregory W. Pedlow, Colorado Springs, Colorado, 12 October 1988 (S).

[59] James Cherbonneaux, Carmine Vito, and Hervey Stockman (former U-2 pilots), interview by Donald E. Welzenbach, Washington, DC, May 1986 (S).

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wings parallel to the ground during takeoff. Once airborne, Rose made a low-level pass over the airstrip and shook loose the lefthand pogo. When he attempted to make a righthand turn to come back over the runway to shake loose the remaining pogo, Rose stalled the U-2 and it plunged to earth, disintegrating over a wide area. Three months later, on 31 August 1956, a second fatal crash occurred during a night-flying exercise. Frank G. Grace stalled article 354 at an altitude of about 50 feet when he tried to climb too steeply at takeoff. The craft fell, cartwheeled on its left wing, and struck a power pole near the runway. More experienced U-2 pilots always cut back abruptly on the throttle as soon as the pogo sticks fell away in order to avoid such stalls.

Before the year was out, two more U-2s were destroyed in crashes, one of them fatal. On 17 September 1956, article 346 lost part of its right wing while on its takeoff ascent from Lindsey Air Force Base in Wiesbaden, Germany. The aircraft disintegrated in mid-air, killing pilot Howard Carey. The loss of article 357 on 19 December 1956 resulted from pilot hypoxia. A small leak prematurely depleted the oxygen supply and impaired Robert J. Ericson's judgment as he flew over Arizona. Because of his inability to act quickly and keep track of his aircraft's speed, the U-2 exceeded the placarded speed of 190 knots and literally disintegrated when it reached 270 knots. Ericson managed to jettison the canopy and was sucked out of the aircraft at 28,000 feet. His chute opened automatically at 15,000 feet, and he landed without injury. The aircraft was a total loss.[60]

COORDINATION OF COLLECTION REQUIREMENTS

From the very beginning of the U-2 program, it was apparent that some sort of an interagency task force or office would be needed to develop and coordinate collection requirements for the covert overhead reconnaissance effort. In a three-page memorandum to DCI Dulles on 5 November 1954 setting forth the ideas of the Technological Capabilities Panel's Project 3 on this subject, Edwin Land wrote:

> *It is recommended that . . . a permanent task force, including Air Force supporting elements, be set up under suitable cover to provide guidance on procurement, to consolidate requirements*

[60] U-2 Accident Reports, folders 4, 10, and 14, OSA records, job 67-B-415, box 1 (S).

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and plan missions in view of priority and feasibility, to maintain the operation on a continuing basis, and to carry out the dissemination of the resulting information in a manner consistent with its special security requirements.[61]

James Q. Reber

When the U-2's development and testing approached completion, Land's recommendation was put into effect. Following a meeting with Deputy Secretary of Defense Donald Quarles and Trevor Gardner (who had been promoted from his special assistant post to become Assistant Secretary of the Air Force for Research and Development), Richard Bissell established an Ad Hoc Requirements Committee (ARC) on 1 December 1955. He then named James Q. Reber to be Intelligence Requirements Officer for the U-2 project and chairman of the ARC. Reber was already experienced in coordination with other intelligence agencies, for he had headed the Directorate of Intelligence DI Office of Intelligence Coordination for four years. The first full-scale ARC meeting took place on 1 February 1956 with representatives from the Army, Navy, and Air Force present. Attending for the CIA were representatives from the Office of Research and Reports (ORR) and the Office of Scientific Intelligence (OSI). The CIA membership later expanded to include the Office of Current Intelligence (OCI) and a representative from the Directorate of Plans. In 1957 the National Security Agency (NSA) also began sending a representative. The State Department followed suit in 1960, although it had been receiving reports from the committee all along.[62]

ARC's main task was to draw up lists of collection requirements, primarily for the U-2, but also for other means of collection. These lists prioritized targets according to their ability to meet the three major national intelligence objectives concerning the Soviet Union in the mid-1950s: long-range bombers, guided missiles, and nuclear energy. The committee issued its list of targets for the use of the entire intelligence community using all available means of collection, not just for the CIA with the U-2.[63]

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[61] *OSA History*, chap. 1, annex 1 (TS Codeword).

[62] Minutes of the Ad Hoc Requirements Committee of 1 February 1956, Intelligence Community (IC) Staff records, COMIREX, job 33-B-121A, box 1, "ARC Minutes, 1956-1957;" Memorandum for the Joint Study Group from James Q. Reber, "Handling of Requirements for the U-2," 15 August 1960, IC Staff records, job 33-T-123A, box 10, "CHALICE (General)" (TS Codeword).

[63] Memorandum for the Joint Study Group from James Q. Reber, "Handling of Requirements for the U-2," 15 August 1960, IC Staff records, job 33-T-123A, box 10, "CHALICE (General)" (TS Codeword).

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Arthur C. Lundahl

ARC gave the top priority target list to the Project Director, and the project staff's operations section then used the list to plan the flightpaths for U-2 missions. Although the requirements committee was not responsible for developing flight plans, it assisted the planners with detailed target information as required. When a flight plan was ready for submission to the President for approval, the committee drew up a detailed justification for the selection of the targets. This paper accompanied the flight plan.[84]

In developing and prioritizing lists of targets, the committee members had to take into account the varying needs and interests of their parent organizations. Thus, the CIA representatives generally emphasized strategic intelligence: aircraft and munitions factories, power-generating complexes, nuclear establishments, roads, bridges, inland waterways. In contrast, the military services usually placed a heavier emphasis on order-of-battle data. The Air Force, in particular, had a strong interest in gathering intelligence on the location of Soviet and East European airfields and radars.

Although the committee members kept the interests of their services or agencies in mind, their awareness of the vital nature of their mission kept the level of cooperation high. The group always attempted to reach a consensus before issuing its recommendations, although occasionally this was not possible and one or more agencies would add a dissent to the recommendation of the committee as a whole.[85]

PREPARATIONS TO HANDLE THE PRODUCT OF U-2 MISSIONS

On 13 December 1954, DCI Allen Dulles and his assistant, Richard Bissell, briefed Arthur C. Lundahl, the chief of CIA's Photo-Intelligence Division (PID), on Project AQUATONE. At DCI Dulles's direction, Lundahl immediately set in motion within his division a compartmented effort, known as Project EQUINE, to plan for the exploitation of overhead photography from the U-2 project. With only 13 members, the PID staff was too small to handle the expected

[84] Ibid.; James Q. Reber, interview by Donald E. Welzenbach and Gregory W. Pedlow, Washington, DC, 21 May 1987 (S).

[85] Reber interview (S).

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The Steuart Building, home of the Photo-Intelligence Division

flood of photographs that the U-2 would bring back, so in May 1955 the Directorate of Support (DS) authorized expanding PID to 44 persons. Soon afterward the division moved from its room in M Building to larger quarters in Que Building.

The Photo-Intelligence Division continued to expand in anticipation of large quantities of U-2 photography. Its authorized strength doubled in January 1956 when a new project known as HTAUTOMAT came into existence to exploit U-2 photography. All of the products from this project would be placed in the new control system. By the summer of 1956, the PID had moved to larger quarters in the Steuart Building at 5th Street and New York Avenue, NW. PID photointerpreters had already begun to work with U-2 photography following a series of missions in April 1956, when U-2s photographed a number of US installations that were considered analogous to high-priority Soviet installations. As a result of these preparations, PID was ready for the mass of photography that began coming when U-2 operations commenced in the summer of 1956.[66]

[66] For a more detailed history of photointerpretation in the CIA, see [redacted] *The National Photographic Interpretation Center*, vol. 1, *Antecedents and Early Years*, Directorate of Science and Technology Historical Series NPIC-2, December 1972, pp. 171-194 (S).

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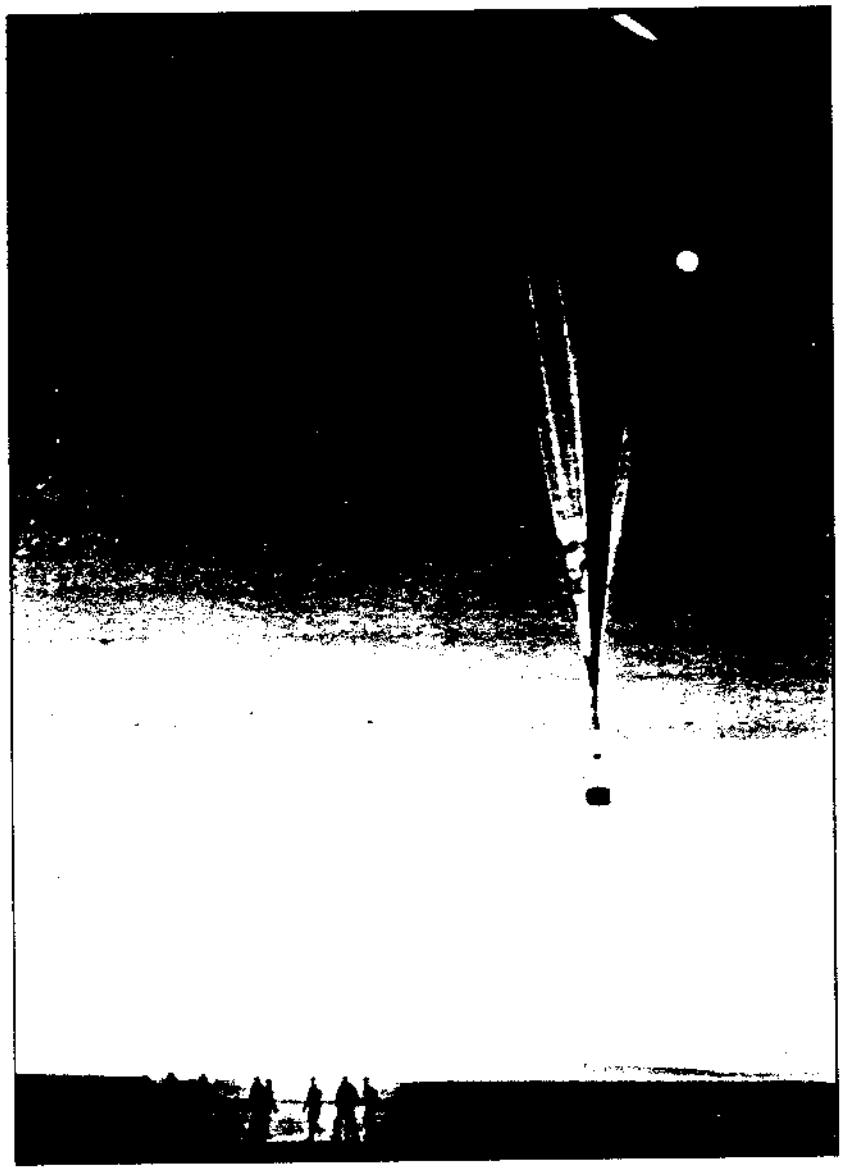

Project GENETRIX balloon launch

THE IMPACT OF THE AIR FORCE PROJECT GENETRIX BALLOONS

While the Agency was making its final preparations for U-2 overflights, the Air Force started a reconnaissance project that would cause considerable protest around the world and threaten the existence of the U-2 overflight program before it even began. Project GENETRIX involved the use of camera-carrying balloons to obtain high-altitude photography of Eastern Europe, the Soviet Union, and

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the People's Republic of China. This project had its origins in a RAND Corporation study from 1951. By the end of 1955, the Air Force had overcome a number of technical problems in camera design and recovery techniques and had manufactured a large number of balloons for use in the project. President Eisenhower gave his approval on 27 December 1955, and two weeks later the launches from bases in Western Europe began. By the end of February 1956, the Air Force had launched a total of 516 balloons.[67]

Project GENETRIX was much less successful than its sponsors had hoped. Once launched, the balloons were at the mercy of the prevailing winds, and many tended to drift toward southern Europe and then across the Black Sea and the desert areas of China. These balloons therefore missed the prime target areas, which lay in the higher latitudes. Large numbers of balloons did not succeed in crossing the Soviet Union and China, some because they were shot down by hostile aircraft, others because they prematurely expended their ballast supplies and descended too soon. Only 46 payloads were eventually recovered (one more than a year later and the last not until 1958) from the 516 balloons that had been launched. In four of these payloads the camera had malfunctioned, and in another eight the photography was of no intelligence value. Thus, only 34 balloons succeeded in obtaining useful photographs.[68]

The low success rate of the Project GENETRIX balloons was not the only problem encountered; far more serious was the storm of protest and unfavorable publicity that the balloon overflights provoked. Although the Air Force had issued a cover story that the balloons were being used for weather research connected with the International Geophysical Year, East European nations protested strongly to the United States and to international aviation authorities, claiming that the balloons endangered civilian aircraft. The Soviet Union sent strongly worded protest notes to the United States and the nations from which the balloons had been launched. The Soviets also collected numerous polyethelene gasbags, camera payloads, and transmitters from GENETRIX balloons and put them on display in Moscow for the world press.[69]

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[67] P. G. Strong, Attachment to Memorandum for DCI Dulles, "Project GENETRIX Summary," 15 February 1956 (S).

[68] Final Report, Project 119L, 1st Air Division (Meteorological Survey) Strategic Air Command, 5 March 1956, D-582, General Summary (S, declassified 1979).

[69] *New York Times*, 10 February 1956, p. 1; *Omaha World Herald*, 11 February 1956, p. 1.

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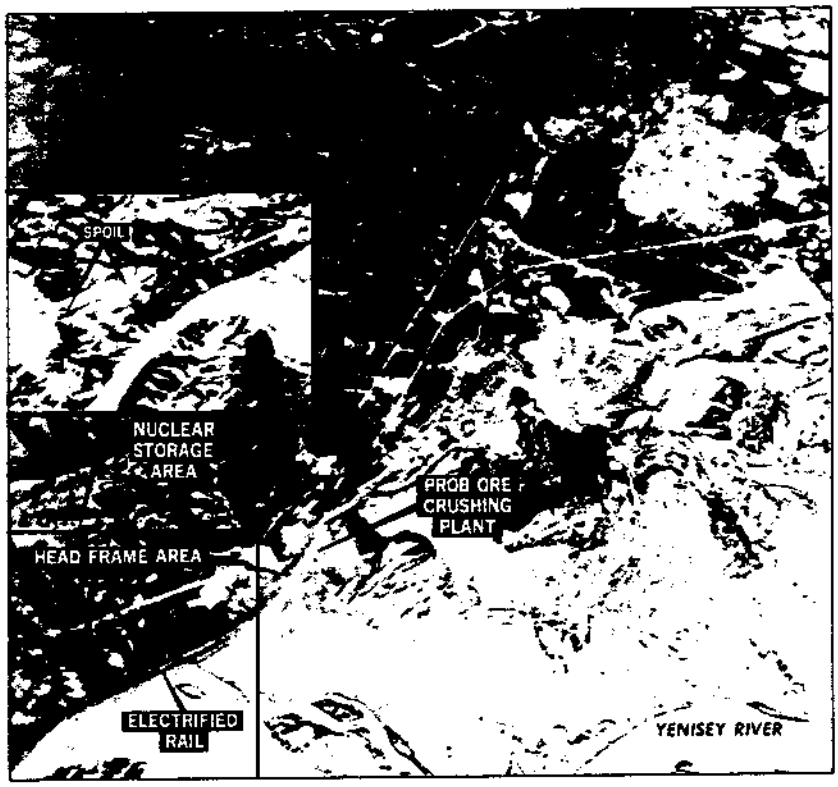

Photograph of Dodonovo Atomic Energy complex taken by a Project GENETRIX balloon

All of this publicity and protest led President Eisenhower to conclude that "the balloons gave more legitimate grounds for irritation than could be matched by the good obtained from them," and he ordered the project halted. On 7 February 1956 Secretary of State Dulles informed the Soviet Union that no more "weather research" balloons would be released, but he did not offer an apology for the overflights.[70]

Despite the furor caused by GENETRIX, Air Force Chief of Staff Twining proposed yet another balloon project only five weeks later, in mid-March 1956. This project would employ even higher flying balloons than GENETRIX and would be ready in 18 months. President Eisenhower informed the Air Force, however, that he was "not interested in any more balloons."[71]

[70] Andrew J. Goodpaster, Memorandum for the Record, "10 February 1956 Conference of Joint Chiefs of Staff with the President," WHOSS, Alpha, DDEL (TS, declassified 1980); Stephen E. Ambrose, *Eisenhower: The President* vol. 2 (New York: Simon and Schuster, 1984), p. 310.

[71] Quoted in Ambrose, *Eisenhower: The President*, p. 310.

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Although the photo intelligence gained from Project GENETRIX was limited in quantity, it was still some of the best and most complete photography obtained of the Soviet Union since World War II. It was referred to as "pioneer" photography because it provided a baseline for all future overhead photography. Even innocuous photos of such things as forests and streams proved valuable in later years when U-2 and satellite photography revealed construction activity.

Of still greater importance to the U-2 program, however, was the data that US and NATO radars obtained as they tracked the paths of the balloons—whose average altitude was 45,800 feet—over the Soviet Bloc. This data provided the most accurate record to date of high-altitude wind currents, knowledge that meteorologists were later able to put to use to determine optimum flightpaths for U-2 flights.

One completely fortuitous development from Project GENETRIX had nothing to do with the cameras but involved a steel bar. This bar served a dual purpose: the rigging of the huge polyethylene gasbag was secured to the top of the bar and the camera-payload and automatic-ballasting equipment was attached to the bottom. By sheer chance, the length of the bar—91 centimeters—corresponded to the wavelength of the radio frequency used by a Soviet radar known by its NATO designator as TOKEN. This was an S-band radar used by Soviet forces for early warning and ground-controlled intercept. The bar on the GENETRIX balloons resonated when struck by TOKEN radar pulses, making it possible for radar operators at US and NATO installations on the periphery of the Soviet Union to locate a number of previously unknown TOKEN radars.

These radar findings, coupled with other intercepts made during the balloon flights, provided extensive data on Warsaw Pact radar networks, radar sets, and ground-controlled interception techniques. Analysis of these intercepts revealed the altitude capabilities and tracking accuracy of radars, the methods used by Warsaw Pact nations to notify each other of the balloons' passage (handing off), and the altitudes at which Soviet aircraft could intercept the balloons. All of this information could be directly applied to future U-2 missions.[72]

[72] Final Report, Project 119L, 1st Air Division (Meteorological Survey) Strategic Air Command, 5 March 1956, D-582, General Summary (TS, declassified 1979).

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These positive results from Project GENETRIX did not outweigh the political liabilities of the international protests. CIA officials became concerned that the ill will generated by balloon overflights could sour the Eisenhower administration on all overflights, including those by the U-2, which was just about ready for deployment. Therefore, DDCI Cabell wrote to Air Force Chief of Staff Twining in February 1956 to warn against further balloon flights because of the "additional political pressures being generated against all balloon operations and overflights, thus increasing the difficulties of policy decisions which would permit such operations in the future." [73]

In addition to its concern for the future of the U-2 program, the Agency feared that President Eisenhower's anger at balloon overflights might result in the curtailment of the balloon program that the Free Europe Committee—a covert Agency operation based in West Germany—used to release propaganda pamphlets over Eastern Europe.

AQUATONE BRIEFINGS FOR SELECTED MEMBERS OF CONGRESS

Although knowledge of the U-2 project was a closely guarded secret within both the Agency and the Eisenhower administration, DCI Dulles decided that a few key members of Congress should be told about the project. On 24 February 1956, Dulles met with Senators Leverett Saltonstall and Richard B. Russell, the ranking members of the Senate Armed Services Committee and its subcommittee on the CIA. He shared with them the details of Project AQUATONE and then asked their opinion on whether some members of the House of Representatives should also be informed. As a result of the senators' recommendation that the senior members of the House Appropriations Committee should be briefed, Dulles later met with its ranking members, Representatives John Taber and Clarence Cannon. Official Congressional knowledge of the U-2 project remained confined to this small group for the next four years. The House Armed Services Committee and its CIA subcommittee did not receive a CIA briefing on the U-2 project until after the loss of Francis Gary Powers's U-2 over the Soviet Union in May 1960.[74]

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[73] Philip G. Strong, Attachment to Memorandum for DCI Dulles, "Project GENETRIX Summary," 15 February 1956, OSI records (S).

[74] John S. Warner, Legislative Counsel, Memorandum for the Record, "AQUATONE Briefings," 18 November 1957, Office of Congressional Affairs records, job 61-357, box 2 (S); Warner interview (S).

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THE U-2 COVER STORY

In February 1956, while the controversy over balloon flights was still raging and the U-2 was completing its final airworthiness tests, Richard Bissell and his staff began working on a cover story for overseas operations. It was important to have a plausible reason for deploying such an unusual looking plane, whose glider wings and odd landing gear were certain to arouse curiosity.

Bissell decided that the best cover for the deployment of the U-2 was an ostensible mission of high-altitude weather research by the National Advisory Committee on Aeronautics (NACA). Such a cover story, however, needed the approval of all concerned: Air Force intelligence, the Air Weather Service, the Third Air Force, the Seventh Air Division, the SAC U-2 project officer, the Air Force Headquarters project officer, and NACA's top official, Dr. Hugh Dryden. Moreover, the CIA Scientific Advisory Committee was also consulted about the cover plan.

Senior CIA officials and the other agencies involved in providing cover for the U-2 approved the final version of the overall cover story at the end of March 1956. The project staff then began working on contingency plans for the loss of a U-2 over hostile territory. Bissell advised the project's cover officer to "produce a document which sets forth all actions to be taken . . . not only press releases and the public *line* to be taken, but also the suspension of operations and at least an indication of the diplomatic action. . . .We should at least make the attempt in this case to be prepared for the worst in a really orderly fashion." The cover officer then prepared emergency procedures based on the overall weather research cover story, and Bissell approved these plans. There was one final high-level look at the cover story on 21 June 1956, the day after the first U-2 mission over Eastern Europe, when Bissell met with General Goodpaster, James Killian, and Edwin Land to discuss the pending overflights of the Soviet Union, including the proposed emergency procedures. Killian and Land disagreed with Bissell's concept and made a much bolder and more forthright proposal: in the event of the loss of a U-2 over hostile territory, the United States should not try to deny responsibility but should state that overflights were being conducted "to guard against surprise attack." This proposal was put aside for further thought (which it never received), and Bissell's weather research cover remained the basis for statements to be made after a loss. The project staff then went on to prepare a number of different statements to be

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used in various scenarios, including one in which the pilot was captured. Even in such a case, however, the proposed policy was for the United States to stick to the weather research cover story, a course of action that would prove disastrous in May 1960.[75]

[75] *OSA History*, chap. 8, pp. 30-35; chap. 11, annex 73 (TS Codeword).

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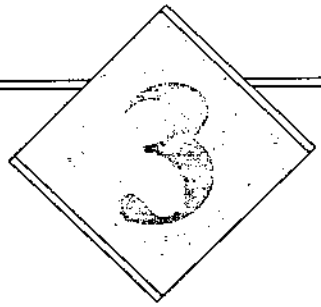

U-2 Operations in the Soviet Bloc and Middle East, 1956-1968

By January 1956, everyone working on Project AQUATONE could see that the U-2 was nearing the time for operational deployment. During tests the aircraft had met all the criteria established in late 1954. Its range of 2,950 miles was sufficient to overfly continents, its altitude of 72,000 feet was beyond the reach of all known antiaircraft weapons and interceptor aircraft, and its camera lenses were the finest available.

Because the main targets for the U-2 lay behind the Iron Curtain, Bissell and his staff began looking for operational bases in Europe. The United Kingdom, America's closest ally, seemed the logical choice for U-2 bases, and, on 10 January 1956, Bissell flew to London to discuss the matter with Royal Air Force (RAF) and MI-6 officials. Their initial response was favorable, but they told Bissell that the proposal needed approval at a much higher level.

Bissell reported his findings to DCI Dulles, who promptly arranged to meet with Foreign Secretary Selwyn Lloyd in London to explore the possibility of winning the British Government's approval for the project. Dulles presented his case to Lloyd on 2 February, and, by early March, Prime Minister Anthony Eden approved the basing of U-2s in the United Kingdom. The U-2s were to use Lakenheath AFB, an RAF base also used by the USAF Strategic Air Command (SAC).[1]

[1] *OSA History*, chap. 11, pp. 10-15 (TS Codeword).

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THE DEPLOYMENT OF DETACHMENT A TO LAKENHEATH

The first Agency U-2 detachment, consisting of four aircraft and pilots, was known publicly as the 1st Weather Reconnaissance Squadron, Provisional (WRSP-1). The "provisional" designation gave the U-2 detachments greater security because provisional Air Force units did not have to report to higher headquarters. WRSP-1, known within the Agency as Detachment A, began deploying to the United Kingdom on 29 April 1956. By 4 May, all of the detachment's personnel and equipment, including four aircraft, had arrived at Lakenheath.[2]

Shortly after deployment, on 7 May, the National Advisory Committee on Aeronautics (NACA) released an unclassified U-2 cover story stating that a Lockheed-developed aircraft would be flown by the USAF Air Weather Service to study such high-altitude phenomena as the jet stream, convective clouds, temperature and wind structures at jet-stream levels, and cosmic-ray effects up to 55,000 feet.[3]

Before overflights could begin from Lakenheath, however, several incidents occurred that dampened Prime Minister Eden's interest in having the U-2s on British territory. In mid-April 1956, a Soviet naval squadron brought Soviet leaders Nikita Khrushchev and Nikolai Bulganin on an official visit to the United Kingdom. Although the ships were docked in Portsmouth Harbor, a British counterintelligence operative and underwater expert, retired Royal Navy Commander Lionel Crabb, apparently undertook a mission to examine the hulls of these vessels but vanished in the process. His headless body was later found washed up on a beach. This so-called Frogman Incident caused an uproar in Parliament and a protest from Moscow that soured relations between the United Kingdom and the Soviet Union. To avoid further deterioration of Anglo-Soviet relations, the Prime Minister wrote to President Eisenhower on 16 May asking that overflights be postponed. Only two days later, a U-2 on a training flight from Lakenheath inadvertently penetrated the British radar network, causing RAF fighters to scramble. Afterward the Air Ministry made a public announcement that a special NACA aircraft was conducting high-altitude research in the United Kingdom. At about the

[2] Ibid., pp. 17-18 (TS Codeword).

[3] Press Release of 7 May 1956 (U) in *OSA History*, chap. 7, annex 60 (TS Codeword).

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same time, Richard Bissell learned that the State Department had told Prime Minister Eden that only one U-2 was based at Lakenheath, when in reality there were four.[4]

THE MOVE TO WIESBADEN

To avoid arousing further reaction in the United Kingdom and to begin the program of U-2 overflights beyond the Iron Curtain without further delay, Bissell moved Detachment A on 11 June 1956 to Wiesbaden, one of the busiest airfields in West Germany, without notifying West German authorities. The detachment commander, Col. Frederick McCoy, was disappointed in his hope that the redeployment of the U-2s could be accomplished without drawing undue attention. The strange-looking planes, with bicycle-type wheels and wings so long they touched the ground after landing, aroused considerable interest. Wiesbaden was to be only a temporary home for Detachment A; the Air Force began preparing Giebelstadt near the East German border for use by the U-2s. Giebelstadt was an old World War II airbase that had been one of the launching sites for the GENETRIX balloons.[5]

Soon after the four U-2s arrived in Wiesbaden, they were refitted with the more powerful J57/P-31 engines. The new engines were better suited for operations behind the Iron Curtain because they were less likely to suffer flameouts than the earlier model. Once the new engines were installed, the aircraft received the designation U-2B.[6]

Bissell was anxious to get the overflights started by late June because SAC weather experts had predicted that the best weather for photographing the Soviet Union would be between 20 June and 10 July. Bissell, however, had not yet received final authorization from President Eisenhower to begin overflights of the Soviet Union. On 28 May 1956, when DCI Allen Dulles met with the President to discuss the U-2's readiness for operations, Eisenhower still made no decision on overflights. Three days later Dulles and Air Force Chief of Staff

[4] Christopher Andrew, *Her Majesty's Secret Service: The Making of the British Intelligence Community* (New York, 1986), pp. 495-496; Beschloss, *Mayday*, p. 116; *OSA History*, chap. 11, pp. 18-21 (TS Codeword).

[5] *OSA History*, chap. 11, pp. 21-23 (TS Codeword).

[6] Ibid., pp. 23, 26 (TS Codeword).

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Nathan Twining prepared a paper for the President outlining "AQUATONE Operational Plans." In the meantime, President Eisenhower had entered Walter Reed Hospital for tests for an abdominal ailment that turned out to be ileitis, requiring an operation. During his recovery from surgery, Eisenhower would make his final decision on the overflight program.[7]

PRESIDENT EISENHOWER'S ATTITUDE TOWARD OVERFLIGHTS

The President had mixed feelings about overflights of the Soviet Union. Aware that they could provide extremely valuable intelligence about Soviet capabilities, he, nevertheless, remained deeply concerned that such flights brought with them the risk of starting a war. From the very beginning of the U-2 program, President Eisenhower had worked to minimize the possibility that overflights could lead to hostilities. He had always insisted that overflights by military aircraft were too provocative, and in 1954 he had therefore supported the Land committee's proposal for an unarmed civilian aircraft instead of the military reconnaissance planes favored by the Air Force. For the same reason, Eisenhower had resisted attempts by the Air Force to take the U-2 program away from the CIA in 1955.

In fact, the President's desire to avoid secret reconnaissance missions over the Soviet Union, with all their risks, led him to make his famous "Open Skies" proposal in the summer of 1955, when the U-2 was still under development but making good progress. At the Geneva summit conference on 21 July 1955, President Eisenhower offered to provide airfields and other facilities in the United States for the Soviet Union to conduct aerial photography of all US military installations if the Soviet Union would provide the United States with similar facilities in Russia. Not surprisingly, Soviet leader Nikita Khrushchev almost immediately rejected Eisenhower's offer. Although the President had hoped that the Soviet Union would accept his proposal, he was prepared for rejection. While Open Skies was still being considered, Eisenhower had stated, "I'll give it one shot. Then if they don't accept it, we'll fly the U-2."[8]

[7] Ibid., pp. 23-25 and annex 73, "AQUATONE Operational Plans," 31 May 1956 (TS Codeword).

[8] Quoted in Beschloss, *Mayday*, p. 105.

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Even though President Eisenhower had approved every stage of the U-2's development, knowing full well that the aircraft was being built to fly over the Soviet Union, the actual decision to authorize such flights was very difficult for him. He remained concerned that overflights could poison relations with the Soviet Union and might even lead to hostilities. One argument that helped overcome the President's reluctance was the CIA's longstanding contention that U-2 flights might actually go undetected because Soviet radars would not be able to track aircraft at such high altitudes. This belief was based on a 1952 study of Soviet World War II–vintage radars and on 1955 tests using US radars, which—unknown to US officials—were not as effective as Soviet radars against high-altitude targets. Shortly before U-2 operations began, however, the CIA's Office of Scientific Intelligence (OSI) conducted a vulnerability study of the U-2 that was published on 28 May 1956. The study's conclusion was that "Maximum Soviet radar detection ranges against the Project aircraft at elevation in excess of 55,000 feet would vary from 20 to 150 miles.... In our opinion, detection can therefore be assumed." The OSI study added, however, "It is doubtful that the Soviets can achieve consistent tracking of the Project vehicle."[9] Completed just three weeks before the initation of overflights, this study seems to have had little impact on the thinking of the top project officials. They continued to believe that the Soviets would not be able to track the U-2 and might even fail to detect it, except for possible vague indications.[10]

Soviet radars were not President Eisenhower's only concern. Also fearing that a malfunction might cause a U-2 to crash inside the Soviet Union, he asked Allen Dulles what the consequences would be. The President's staff secretary, Col. Andrew J. Goodpaster, who was present at virtually all White House meetings on the U-2 project and served as the President's intermediary to the CIA on this issue, later recalled:

> *Allen's approach was that we were unlikely to lose one. If we did lose one, the pilot would not survive.... We were told—and it was part of our understanding of the situation—that it was almost certain that the plane would disintegrate and that we could*

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[9] *OSA History*, chap. 11, p. 31 (TS Codeword). For the belief that the U-2 might go undetected see the Leghorn interview and Dwight D. Eisenhower, *Waging Peace, 1956-1961* (New York, 1965), p. 41.

[10] Richard M. Bissell, Jr., interview by Gregory W. Pedlow, tape recording, Farmington, Connecticut, 28 October 1988 (S).

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Colonel Goodpaster with President Eisenhower

take it as a certainty that no pilot would survive . . . and that although they would know where the plane came from, it would be difficult to prove it in any convincing way.[11]

CIA assurances that the U-2 would probably not be detected, and that a crashed U-2 could not be traced back to the United States, helped overcome the President's worries about overflights. The most important reason why President Eisenhower decided to send reconnaissance aircraft over the Soviet Union, however, was the urgent need for accurate intelligence to confirm or disprove claims of Soviet advances in long-range bombers and missiles. The initial sighting of the new Soviet Bison bomber in the spring of 1954 had been followed by reported sightings of more than 30 of these bombers in the spring and summer of 1955 (in reality these were sightings of the same group of 10 aircraft that circled around out of sight and made several passes during a Soviet air show). Soon members of Congress were calling for investigations into the relative strength of the US and

[11] Quoted in Beschloss, *Mayday*, p. 118.

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Soviet Air Forces.[12] Early in 1956, concern about a possible Soviet advantage in long-range bombers grew as Air Force Chief of Staff Twining informed the Senate Armed Services Committee that the Soviet Union already had more Bisons than the United States had B-52s and that the Soviets would be able to "maintain this advantage for some time if they keep on the production curve we are now predicting." [13] By May 1956, reporting on the growing Soviet air strength was no longer confined to aviation journals; *U.S. News and World Report*, for example, featured articles headlined "Can Soviets Take the Air Lead?" and "Is U.S. Really Losing in the Air?" [14]

Alongside fear of possible Soviet superiority in long-range bombers came a new potential threat: Soviet progress in guided missile research. Trevor Gardner, Air Force Assistant Secretary for Research and Development, warned in September 1955 that "the most complex and baffling technological mystery today is not the Russian capability in aircraft and nuclear weapons but rather what the Soviet progress has been in the field of guided missiles." [15] On 30 January 1956, *Time* magazine made the guided missile its cover story. The article began by describing a hypothetical crisis set in 1962 in which the United States suffered a humiliating defeat because it had lagged behind the Soviet Union in guided missile development.[16] Just two weeks after this story appeared, the Soviets successfully tested a missile with a range of 900 miles, and President Eisenhower admitted at a press conference that the Soviet Union might be ahead of the United States in some areas of the missile field. Administration critic Senator Stuart Symington then claimed, "The facts are that our missile development may be ahead in the short-range area, but their missile development is ahead in the area that counts by far the most—the

[12] Robert Hotz, "Russian Jet Airpower Gains Fast on US," *Aviation Week*, 23 May 1955, pp. 12-15; "Aviation Week Story Spurs Debate on US, Red Airpower Positions," *Aviation Week*, 30 May 1955, pp. 13-14.

[13] Claude Witze, "Russians Outpacing US in Air Quality, Twining Warns Congress," *Aviation Week*, 27 February 1956, pp. 26-28; Robert Hotz, "Russian Air Force Now Gaining in Quality," *Aviation Week*, 12 March 1956, p. 286.

[14] "Can Soviets Take the Air Lead? What LeMay, Wilson, Ike Say," *US News and World Report*, 11 May 1956, pp. 108-114; "Is U.S. Really Losing in the Air?" *US News and World Report*, 18 May 1956, pp. 25-27.

[15] William Coughlin, "Gardner Defends Greater R&D Spending," *Aviation Week*, 26 September 1955, p. 14.

[16] "Missiles Away," *Time*, 30 January 1956, pp. 52-55.

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long-range area." [17] Fears of Soviet missile progress increased when Nikita Khrushchev stated on 23 April 1956, "I am quite sure that we shall have very soon a guided missile with a hydrogen-bomb warhead which could hit any point in the world." [18]

Faced with growing Congressional and public anxiety over Soviet offensive capabilties, President Eisenhower approved the proposed overflight program. Colonel Goodpaster relayed this decision to Bissell, Land, and Killian at a meeting on 21 June. The President nevertheless maintained tight control over the program and authorized only 10 days of overflights when operations over the Soviet Union were ready to start in early July 1956.[19]

FIRST OVERFLIGHTS OF EASTERN EUROPE

The CIA initiated U-2 flights over hostile territory even before the President granted final approval for overflights of the Soviet Union. After consulting with the Commander of US Air Force Europe, Richard Bissell used existing Presidential permission for Air Force overflights of the Soviet Union's East European satellites as his authority to plan a mission over Poland and East Germany. Bissell had informed the President of his intention to conduct such missions in the "AQUATONE Operational Plan" submitted on 31 May.

The first operational use of a U-2 took place on Wednesday, 20 June 1956. Carl K. Overstreet flew a U-2 equipped with an A-2 camera over Poland and East Germany. At the end of the mission, Detachment A immediately rushed the exposed film to the United States for processing. The developed film arrived at the Photo-Intelligence Division (PID) on 22 June 1956. PID personnel considered the pictures obtained by mission 2003 to be of good quality.[20]

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[17] Robert Hotz, "Firing of 900-Mile Russian Missile Spurs US Changes," *Aviation Week*, 20 February 1956, p. 27.

[18] "Is Russia Really Ahead in Missile Race?," *US News and World Report*, 4 May 1956, p. 34.

[19] *OSA History*, chap. 11, pp. 27-29 (TS Codeword); A. J. Goodpaster, Memorandum for the Record, 21 June 1956, WHOSS, Alpha, DDEL (TS).

[20] *OSA History*, chap. 11, p. 27 (TS Codeword); Mission folder 2003 (20 June 1956), OSA records, job 67-B-328, box 7 (TS Codeword).

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Following the success of this first mission, Bissell was eager to begin overflights of the Soviet Union. But even after the President granted his approval on 21 June, such missions could not yet take place for two reasons. First, President Eisenhower had agreed with a CIA and State Department recommendation that West German Chancellor Konrad Adenauer be informed in advance of US plans to overfly the Soviet Union from bases in Germany (in keeping with existing policies Adenauer was not informed about overflights of Eastern Europe). Second, Soviet party chief Nikita Khrushchev had invited representatives of the US Air Force to the Moscow Air Show, which opened on 23 June 1956. Led by Air Force Chief of Staff Nathan F. Twining, the delegation would be in the Soviet Union for a week, and General Twining requested that no overflights of the Soviet Union be staged until the Air Force delegation had left.[21]

Both of these restrictions on overflights of the Soviet Union were cleared up by the end of June.

A few days later the Air Force delegation returned from Moscow, but now unfavorable weather prevented the start of operations against the Soviet Union.

While waiting for the clouds over the Soviet Union to clear, Detachment A carried out two more overflights of Eastern Europe on 2 July 1956: mission 2009 over Czechoslovakia, Hungary, and Bulgaria; and mission 2010 over East Germany, Poland, Hungary, and Romania. That afternoon Bissell and DDCI Cabell gave President Eisenhower a detailed briefing on the first U-2 overflight, which the President found "very interesting, very positive." Eisenhower was anxious to know, however, whether radars had tracked the aircraft. Bissell replied that, although East European radars had picked up the 20 June flight, radar operators had misread the altitude as only 42,000 feet. He added that the Agency was awaiting reports on that morning's flights to see if they, too, had been detected. Noting that the U-2

[21] Nathan F. Twining, *Neither Liberty nor Safety* (New York: Holt, Rinehart & Winston, 1966), pp. 259-260; *OSA History*, chap. 11, p. 27 (TS Codeword).

[22] *OSA History*, chap. 11, p. 28 (TS Codeword).

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First Overflights, 20 June - 5 July 1956

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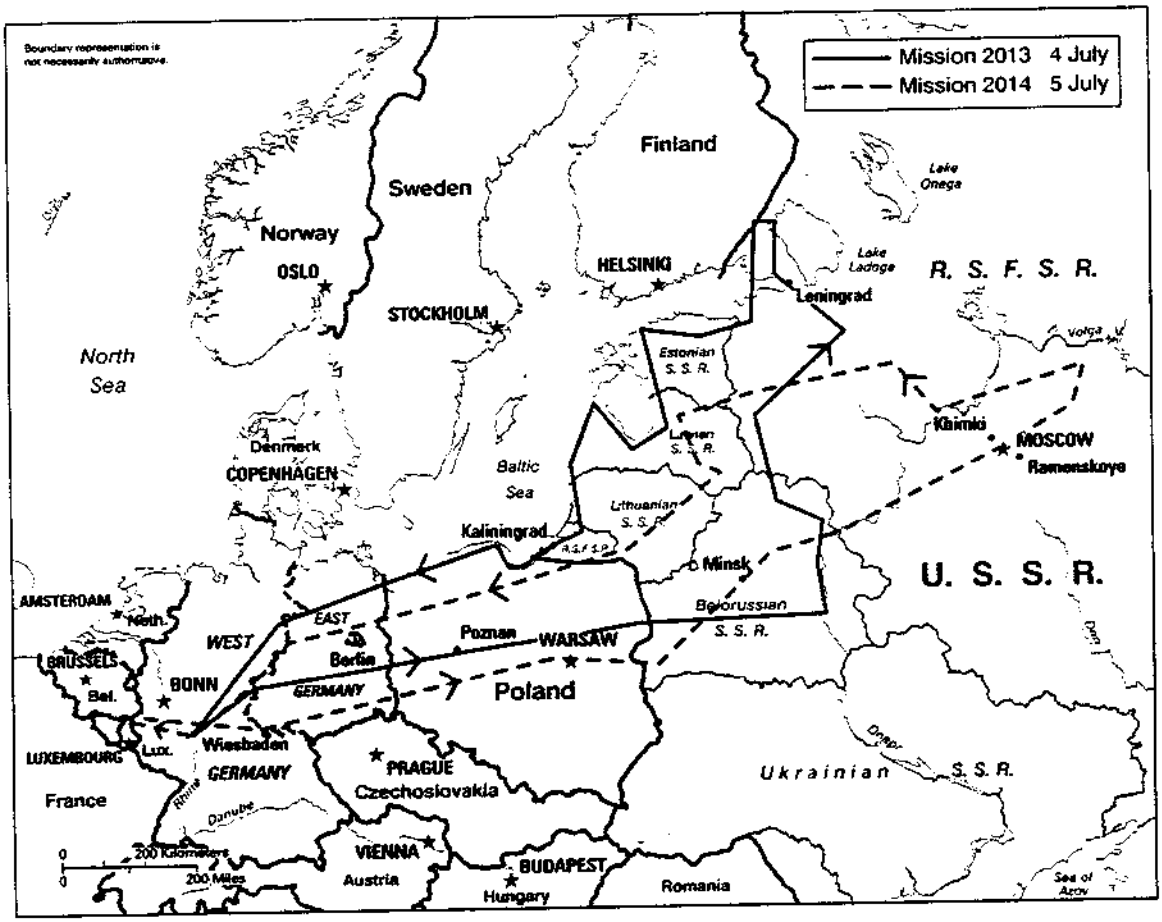
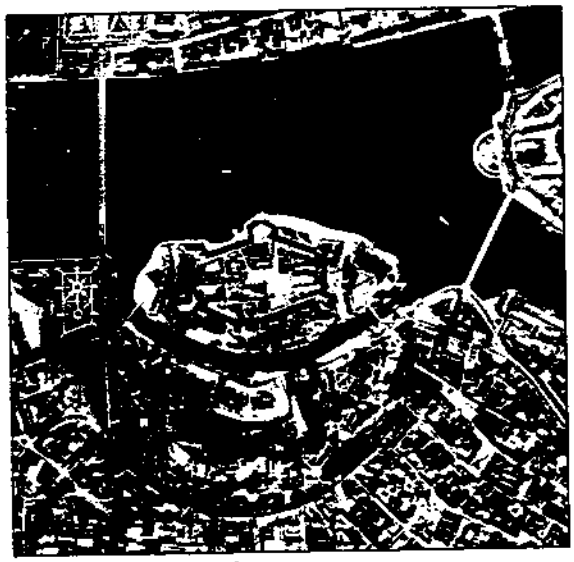
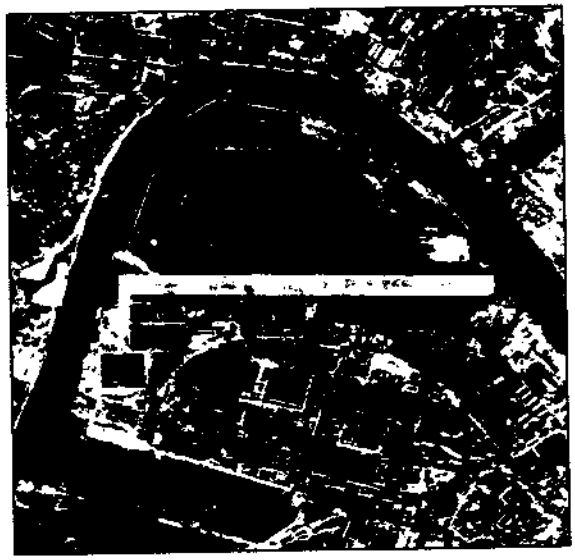




U-2 photography of Leningrad, 4 July 1956



Fili Airframe Plant, Moscow, 5 July 1956

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detachment had four aircraft working and could average up to two flights per day, Bissell told the President that the crews were "ready and eager to go in beyond the satellites" and overfly the center of the Soviet Union.[23]

Eisenhower replied that he thought it "urgent" to know whether the recent flights had been tracked by hostile radars. The President was obviously concerned that CIA estimates that the U-2 could fly virtually undetected were proving false. One of the reasons why he had approved the overflight program was the CIA's assurance that the Soviet Union would remain unaware of the flights or—at the very worst—receive only occasional, vague indications.

FIRST U-2 FLIGHTS OVER THE SOVIET UNION

The question of how well the Soviets could track U-2 flights had not yet been settled when the first overflights of the Soviet Union took place. On Wednesday, 4 July 1956, the U-2 known as Article 347 began the first flight over the Soviet Union. Final authorization for mission 2013 had come shortly before takeoff. Late on the evening of 3 July, Bissell went to project headquarters in the Matomic Building to give the "Go" or "No go" decision. Although the President had approved the overflight, the final decision to start a mission depended on a number of factors, especially the weather over the target area and at the takeoff and landing sites. Bissell made the decision just before midnight Washington time, which was six o'clock in the morning in Wiesbaden. This pattern of last-minute approvals continued for the duration of the U-2 overflight program.[24]

When Wiesbaden received the "Go" signal, a U-2 equipped with an A-2 camera and flown by pilot Hervey Stockman took off on a course that took it over Poznan, Poland, where riots had occurred on 28-30 June. After Poznan, Stockman headed for Belorussia, where he turned north to Leningrad. The last leg of the mission took the U-2 over the Soviet Baltic states before returning to Wiesbaden. The main target of this mission was the naval shipyards in Leningrad, center of

[23] Andrew J. Goodpaster's handwritten notes on 2 July 1956 meeting, WHOSS, Alpha, DDEL (TS).

[24] Bissell interview by Welzenbach (S); Cunningham interview (TS Codeword).

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the Soviet Union's submarine construction program. Mission 2013's route also overflew a number of major military airfields to make an inventory of the new Bison jet-engine heavy bomber.[25]

The second overflight, on the following day, continued the search for Bison bombers. Pilot Carmine Vito's route was similar but somewhat to the south of Stockman's and also flew farther east, more than 200 kilometers past Moscow. Although the Soviet capital was almost completely hidden by clouds, the A-2 camera with haze filters took some usable photographs of the city. These turned out to be the only U-2 photographs of Moscow because no other mission was sent over the Soviet capital. Among the key targets photographed during mission 2014 were the Fili airframe plant, where the Bison was being built; the bomber arsenal at Ramenskoye, where the Bisons were tested; the Kaliningrad missile plant; and the Khimki rocket-engine plant.[26]

When Allen Dulles returned to work on Thursday, 5 July 1956, he asked Bissell if any overflights had taken place during the Independence Day holiday. One had been made on the fourth and another just that morning, Bissell replied. (Because of the six-hour time difference, the 5 July flight was safely back in Wiesbaden by the time Dulles spoke to Bissell.) When Dulles asked the routes of these missions, Bissell told him that they had overflown both Moscow and Leningrad. "Oh my Lord," Dulles exclaimed, "do you think that was wise the first time?" "Allen," Bissell replied, "the first is the safest." [27]

President Eisenhower also wanted to know the results of the 4 and 5 July flights, but his principal concern was whether there had been any indication that either flight had been discovered or tracked by radar. Eisenhower told Colonel Goodpaster "to advise Mr. Allen

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[25] [redacted] *National Photographic Interpretation Center: The Years of Project HTAUTOMAT, 1956-1958*, Directorate of Science and Technology Historical Series NPIC-3, December 1974, 6 vols. (hereafter cited as *NPIC History*), vol. 1, p. 20 (S); Mission folder 2013 (4 July 1956), OSA records, job 67-B-328, box 7 (TS Codeword). Note on mission numbers: each proposed mission received a number, but not all of these missions were flown.

[26] *NPIC History*, vol. 1, p. 21 (S); Mission folder 2014 (5 July 1956), OSA records, job 67-B-328, box 7 (TS Codeword).

[27] Bissell interview by Welzenbach (S).

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Dulles that if we obtain any information or warning that any of the flights has been discovered or tracked, the operation should be suspended." Goodpaster called both Dulles and Bissell and was told that reports on tracking or attempted interception of the U-2s would not be available for another 36 hours. Later that day the two CIA officials met with Goodpaster to ask if flights could continue in the meantime. Goodpaster replied that his understanding of the President's directive was that the operation should continue "at the maximum rate until the first evidence of tracking was received." [28]

Although President Eisenhower had originally spoken of suspending the overflights if they were "discovered or tracked," his main concern was to learn if the Soviets could track U-2 missions, meaning that they could follow the flight on their radar screens for most or all of the missions and thus have numerous opportunities to attempt interception. Certainly the President hoped that U-2 flights could not even be detected, but reports received on the 20 June overflight of Eastern Europe had already indicated that this goal was unrealistic. The President's emphasis therefore shifted to tracking. If the Soviets could successfully track U-2 missions, he wanted the overflights halted.[29] Reports on Soviet radar coverage of the first two overflights of the Soviet Union became available on 6 July. These reports showed that, although the Soviets did detect the aircraft and made several very unsuccessful attempts at interception, they could not track U-2s consistently. Interestingly, the Soviet radar coverage was weakest around the most important targets, Moscow and Leningrad, and the Soviets did not realize that U-2s had overflown these two cities.[30]

Detachment A carried out three more overflights of the Soviet Union during the 10-day period authorized by the President. Two of the missions (2020 and 2021) took place on a single day, 9 July 1956. They covered much of Eastern Europe, and the Ukraine and Belorussia in the Soviet Union. Unfortunately, a broken camera

[28] Andrew J. Goodpaster, Memorandum for the Record, 5 July 1956, WHOSS, Alpha, DDEL (TS).

[29] Gen. Andrew J. Goodpaster, interview by Donald E. Welzenbach and Gregory W. Pedlow, Washington, DC, 8 July 1987 (S).

[30] Mission folders 2013 (4 July 1956) and 2014 (5 July 1956), OSA records, job 67-B-328, box 7 (TS Codeword).

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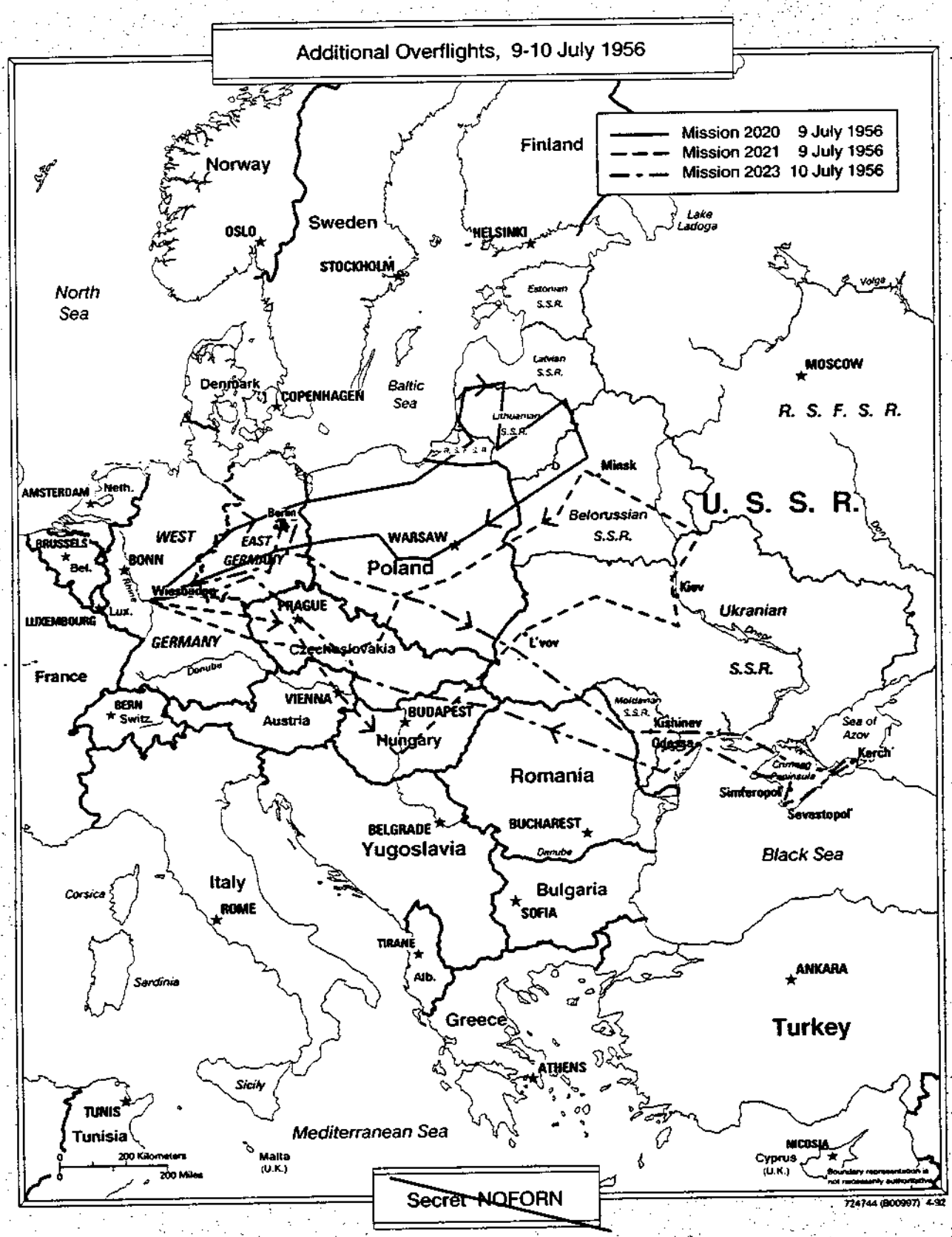

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shutter ruined much of the photography of one of the flights. The third mission (2023), on the following day, included the Crimean Peinsula.[31]

The film from the first overflight (4 July) was flown to the United States immediately after the U-2 landed at Wiesbaden. Several members of the Photo Intelligence Division were on hand when the film was developed to check on the results. Also present was James Baker, who had accepted an offer by project officials to get a first-hand look at how the new A-2 lenses were working.[32]

The photos from July overflights were generally good, despite occasional problems caused by cloud cover. The huge amount of film taken by these missions provided more information about the Soviet Union's ability to track and intercept U-2s. Photointerpreters examining the films eventually discovered the tiny images of MiG-15s and MiG-17s beneath the U-2s in various pursuit and attack attitudes: climbing, flipping over, and falling toward Earth. It was even possible to determine their approximate altitudes. These photographs showed that the Soviet air defense system was able to track U-2s well enough to attempt interception, but they also provided proof that the fighter aircraft available to the Soviet Union in 1956 could not bring down a U-2 at operational altitude.[33]

One problem with early U-2 photography became apparent only after the first films were developed. If there was surface water on the runway at Wiesbaden when the U-2 took off, the camera windows became begrimed. Although the water dried during the flight, the oily scum it left behind degraded the photographic image. To combat this problem, AQUATONE ground crews took brooms and spent several hours before takeoff sweeping puddles of water from the runway to be used by the U-2. Kelly Johnson eventually designed a jettisonable cover for the camera windows, which was released at the same time as the pogos so that it could be recovered and reused.[34]

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[31] Mission folders 2020 (9 July 1956), 2021 (9 July 1956), and 2023 (10 July 1956), OSA records, job 67-B-328, box 7 (TS Codeword).

[32] Cunningham interview (TS Codeword).

[33] Lundahl and Brugioni interview (TS Codeword).

[34] Baker interview (S).

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SOVIET PROTEST NOTE

The 4 and 5 July overflights brought a strong protest from the Soviet Union on 10 July in the form of a note handed to the US Embassy in Moscow. The note said that the overflights had been made by a "twin-engine medium bomber of the United States Air Force" and gave details of the routes flown by the first two missions. The note did not mention Moscow or Leningrad, however, because the Soviets had not been able to track these portions of the overflights. The Soviet note stated that the flights could only be evaluated as "intentional and conducted for the purposes of intelligence." As soon as the note arrived at the White House on the evening of 10 July 1956, Colonel Goodpaster called Bissell and told him to stop all U-2 overflights until further notice. The next morning Goodpaster met with Bissell to review the U-2 situation. Bissell said three additional flights had taken place since the missions mentioned in the Soviet note but added that no more were planned.[35]

Later Eisenhower told Goodpaster that he "didn't like a thing" about the Soviet note and was going to discuss the matter with Secretary of State Dulles. With the strong approval of President Eisenhower, Goodpaster informed DCI Dulles that "there is to be no mention of the existence of this project or of operations incident to it, outside the Executive Branch, and no mention within the Executive Branch to others than those who directly need to know of the operation, as distinguished from output deriving from it."[36]

During these initial overflights, the U-2 flew above 69,000 feet and could be seen only fleetingly by pilots of the Soviet interceptor aircraft. Thus, it appears that the Soviet claim that the intruder was a twin-engine bomber was probably based on the assumption that this was another overflight by a reconnaissance version of the twin-engine Canberra bomber, similar to the RAF overflight of Kapustin Yar in 1953. The US reply, sent to the Soviets on 19 July, truthfully denied that any US "military planes" had overflown the Soviet Union on the days in question. Meanwhile, on 16 July the Polish Ambassador to

[35] "Alleged Violations of Soviet Territory: Soviet Note of July 10, 1956 with U.S. Reply," *US Department of State Bulletin*, 30 July 1956, pp. 191-192; Andrew J. Goodpaster, Memorandum for the Record, 11 July 1956, WHOSS, Alpha, DDEL (TS).

[36] Andrew J. Goodpaster, Memorandum for the Record, 11 July 1956, WHOSS, Alpha, DDEL (TS).

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the United States delivered an oral protest concerning overflights of Poland on 20 June and 2 July. This was followed by a protest note from the Czechoslovak Government on 21 July. No formal reply was sent to the two Soviet satellite states.[37]

The details of the flightpaths listed in the Soviet and Polish protests, along with the subsequent photographic evidence of Soviet interception attempts, made it clear that U-2s could not fly undetected over the Soviet Union or Eastern Europe and could even be tracked for extended periods of time. This news greatly disturbed President Eisenhower. In a meeting with Allen Dulles on 19 July 1956, the President recalled how he had been told that "not over a very minor percentage of these (flights) would be picked up." He went on to question "how far this should now be pushed, knowing that detection is not likely to be avoided." After discussing the possibility of basing U-2s in the Far East, President Eisenhower went on to say that he had "lost enthusiasm" for the U-2 activity. He noted that, if the United States were on the receiving end of a Soviet overflight operation, "the reaction would be drastic." The President was also concerned that the American public might learn of the overflights and be shocked that their country had violated international law. He stated, "Soviet protests were one thing, any loss of confidence by our own people would be quite another."[38]

The President's rapid disenchantment with the project was not lost on Richard Bissell. Fearing for the U-2 program's survival, he met with the Land committee in early August 1956 to urge them to help make the U-2 less vulnerable to radar pulses. His goal was to reduce the aircraft's radar cross section so that it would be less susceptible to detection. Edward Purcell had some ideas on this and suggested that he supervise a new project in the Boston area to explore them. At the direction of the Land committee, Bissell set in motion a project known as HTNAMABLE to establish a proprietary firm called the Scientific Engineering Institute (SEI) in Cambridge. Former Air Force Col. Richard S. Leghorn headed the SEI operation for the Agency when it began on 26 November 1956. SEI was staffed by several MIT scholars who conducted studies and experiments into

[37] "Alleged Violations of Soviet Territory: Soviet Note of July 10, 1956 with U.S. Reply," *US Department of State Bulletin*, 30 July 1956, pp. 191-192; *OSA History*, chap. 11, pp. 32-33 (TS Codeword).

[38] Andrew J. Goodpaster, Memorandum for the Record, 19 July 1956, WHOSS, Alpha, DDEL (TS).

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radar-absorbing materials and techniques proposed by Purcell. The effort, known as Project RAINBOW, got under way by the end of the year.[39]

THE END OF THE BOMBER GAP

During the three-week period of 20 June to 10 July 1956, U-2s had made eight overflights beyond the Iron Curtain, including five over the Soviet Union. PID's photointerpreters were busy until the end of August with their initial evaluation of the photography obtained by these flights. Their efforts were complicated by the division's move on 9 July from Que Building to the Steuart Building, but, when the photointerpreters were finished, they were able to write "finis" to the controversy over Soviet bomber strength.

Although the Air Force had claimed that the Soviet Union possessed almost 100 of the new Myasishchev-4 (Bison) heavy bombers, U-2 photography proved this assertion wrong. There were no Bison bombers at any of the nine long-range bomber bases photographed by the July missions. DCI Allen Dulles was particularly impressed by the photographs of the Soviet bomber bases, which in later years he called "million-dollar" photography. The actual value of the U-2 photos was probably even greater because, on the strength of their evidence, the White House was able to deny Air Force requests for additional B-52 bombers to "catch up" to the Soviets.[40]

Because of the need to protect the source of the information about Soviet bomber strength, the controversy surrounding this issue did not immediately die down. In November 1956, when the CIA began providing new Bison production figures based on U-2 photography without identifying the source, some members of Congress—unaware of the existence of the U-2—questioned the motivation behind the reduced estimates. They suggested that either the earlier estimates of Soviet bomber strength had been inflated to increase Air Force appropriations or the new estimates had been reduced by White House direction in order to hold down military expenditures.

[39] Records of Scientific Engineering Institute (Project HTNAMABLE), OSA records (TS Codeword).

[40] *NPIC History*, vol. 1, p. 23 (S).

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No one in the White House, the CIA, or the Air Force could reveal that U-2 photographs had actually provided the primary evidence for this change in the estimates.[41]

The need to keep the existence of the U-2 program secret caused problems even within the CIA itself. The Office of Security sharply restricted the number of persons who could be cleared for access to U-2 photography. The special clearance was granted on a "slot" basis, and only the person assigned to a particular position or "slot" could have the clearance. The U-2 photographs were kept in a secure room, and only those with special clearances were admitted to the room. In addition, the Office of Security considered U-2 information too sensitive to use in CIA publications. As a result, many analysts did not have access to information that would have greatly aided the production of intelligence estimates.[42]

TACTICAL INTELLIGENCE FROM U-2s DURING THE SUEZ CRISIS

Although U-2s had ceased flying over the Soviet Bloc because of President Eisenhower's standdown order, they could still be used elsewhere in the world. The Middle East would be the next area for U-2 operations. On 26 July 1956, Egyptian President Gamal Abdel Nasser nationalized the Suez Canal Company in retaliation for the decision by the United States and the United Kingdom to withdraw financial support for the Aswan Dam project. Nasser's action provoked an international crisis that would have a permanent effect on the U-2 program.

Long before the Suez Crisis developed, the CIA had planned to deploy U-2s in Turkey for use in the Soviet overflight program. On 1 May 1956, US Charge d'Affaires Foy D. Kohler approached Turkish Prime Minister Adnan Menderes on this matter. He told the Prime Minister that the effort was a continuation of the GENETRIX program, during which balloons had been released from Turkey, and involved aircraft that could fly 10,000 feet higher than any Soviet plane. Menderes gave his approval immediately. At the time of the

[41] John Prados, *The Soviet Estimate: U.S. Intelligence Analysis and Russian Military Strength* (New York: Dial Press, 1982), pp. 45-47.

[42] Lundahl and Brugioni interview (TS Codeword).

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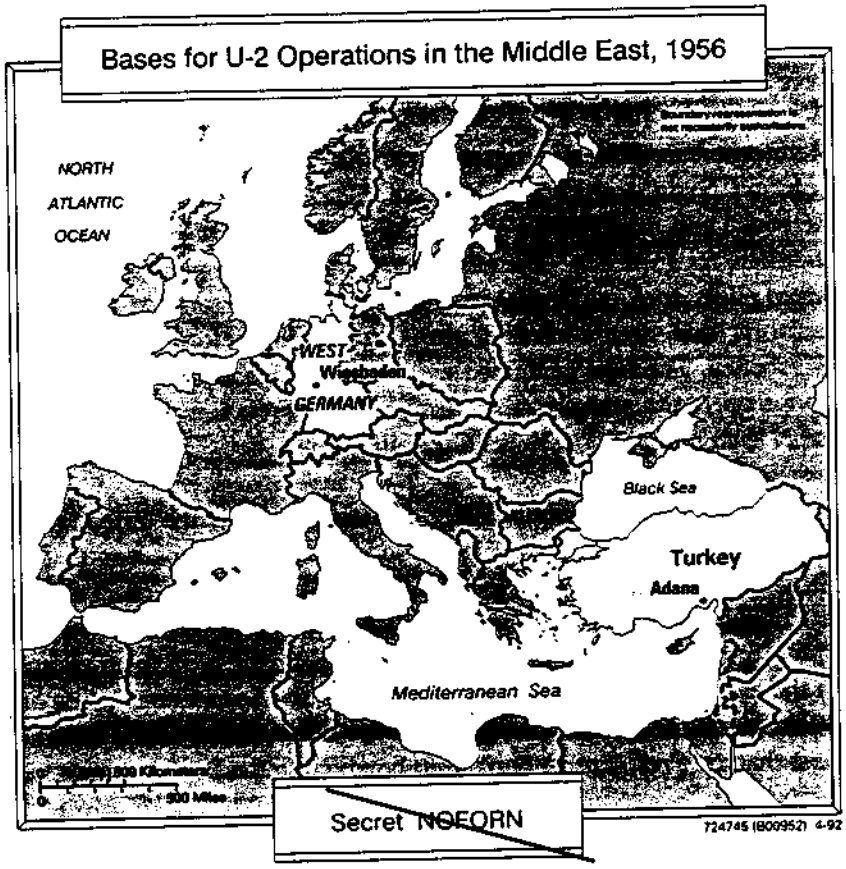

Suez takeover, however, the second contingent of U-2 aircraft and pilots was still being trained in Nevada. This unit would not be ready for redeployment before the end of August and would not become established at Incirlik airbase near Adana, Turkey, until early September 1956. The Agency referred to the AQUATONE detachment at Adana as Detachment B, cryptonym KWCORK; the Air Force covername was Weather Reconnaissance Squadron Provisional 2; and the unit's unofficial name was Tuslog Detachment 10-10. By whatever name, the Adana detachment became the mainstay of U-2 activity for the next three and a half years.[43]

The fast-moving events of the Suez Crisis would not wait for Detachment B pilots to complete their training. With tension growing between Egypt and the Suez Canal Company's former owners, the United Kingdom and France, as well as between Egypt and Israel, US

[43] *OSA History*, chap. 11, pp. 9, 39-40; chap. 12, pp. 5, 12 (TS Codeword).

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military and foreign policy planners needed immediate information about developments in the eastern Mediterranean. Detachment A was, therefore, assigned the first Middle East overflights. On 29 August, U-2 missions 1104 and 1105 left Wiesbaden and overflew the eastern Mediterranean littoral, starting with Greece, then Egypt, Israel, Lebanon, Syria, and Turkey. Because these target areas were beyond the round trip range of the Wiesbaden-based U-2s, the planes landed at Adana for refueling. The next day, the same two planes, with different pilots, took off from Adana and overflew the same Middle East territory, this time including the Gaza Strip, before returning to Wiesbaden. The film contained evidence of large numbers of British troops on Malta and Cyprus and [redacted]

As the situation around Suez grew more tense, the Eisenhower administration decided to release some of the U-2 photos to the British Government. On 7 September, James Reber, chairman of the Ad Hoc Requirements Committee, and Arthur Lundahl, chief of the Photo Intelligence Division, flew to London, taking with them photos of the eastern Mediterranean area, including the Suez Canal, taken on 30 August. These were the first and the only photos of the Middle East that the President authorized to be given to the British during the 1956 crisis.[45]

The Eisenhower administration viewed the developments in the eastern Mediterranean with great concern. To keep the President and Secretary of State abreast of developments in the area, Deputy Director for Intelligence Robert Amory established on 12 September a multiagency group known as the PARAMOUNT Committee to monitor the situation on a round-the-clock basis. The PARAMOUNT Committee worked inside PID headquarters in the Steuart Building. Composed of members from CIA, State, NSA, Army, Navy, and Air Force, this committee met daily—frequently several times a day—to produce reports based on information obtained from U-2 photography, communications and electronic intelligence, and agents. The photointerpreters working for the PARMOUNT committee also came from several agencies: the CIA, the Army, and the Navy.[46]

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[44] Mission folders 1104 (29 August 1956) and 1105 (29 August 1956), OSA records, job 67-B-972, box 6 (TS Codeword).

[45] Lundahl and Brugioni interview (TS Codeword); *NPIC History*, vol. I, pp. 56-58 (S).

[46] *NPIC History*, vol. 1, pp. 47-49, 54-56 (S).

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The Suez Crisis was a major turning point in the use of the U-2 airplane. Before this crisis, the U-2 had been seen solely as a collector of strategic intelligence, with high-quality results considered more important than speed. U-2 film had, therefore, been returned to the manufacturer for optimum development and then interpreted in Washington using the most up-to-date devices. Now, because of the Middle East crisis, Project AQUATONE was expected to perform like a tactical reconnaissance unit, developing film immediately after landing for instant interpretation or "readout." Photo-Intelligence Division personnel assigned to Project HTAUTOMAT (U-2 film exploitation), therefore, had to arrange for forward processing of the U-2 film to avoid unacceptable delays in providing intelligence on tactical developments around Suez.

PID acted quickly to carry out its new assignment. Lundahl and Reber flew from the United Kingdom to US Air Force Europe headquarters in Wiesbaden on 12 September to make arrangements for processing and interpreting U-2 film in West Germany. They had been preceded by [redacted] chief of PID's Special Projects Branch. Following detailed discussions with Air Force photo-intelligence personnel, the CIA representatives arranged to use a portion of a nearby Air Force photo laboratory for developing U-2 film. With the assistance of [redacted] chief of the HTAUTOMAT photo laboratory, and Air Force personnel, [redacted] had the lab ready for processing on the following day, when the next U-2 mission returned from the Middle East. After quickly developing the film, [redacted] and his joint staff of CIA and armed forces personnel studied it for indications of British and French preparations for hostilities and sent their first report to Washington on 15 September.

Although the Air Force provided considerable assistance in establishing [redacted] photo laboratory, Air Force officials did not like the idea of CIA personnel controlling overseas photo processing and interpretation centers, which were normally under Air Force control. Further negotiations led to a CIA–Air Force agreement at the end of October, under which the Air Force would name the commanding officer for such installations and the CIA would designate the deputy, who was responsible for technical and intelligence matters.[47]

PID soon added two photointerpreters and a lab technician to the West German operation, which continued to develop and interpret U-2 photography of the Middle East throughout September and

[47] Ibid., pp. 49-52 (S).

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October 1956. This unit's timely and accurate information enabled the PARAMOUNT Committee to predict the joint Israeli-British-French attack on Egypt three days before it took place.

[redacted] During the rest of the month, Detachment A pilots flew another eight missions over the Middle East. By this time, the new Detachment B in Turkey was ready for operations, and it was better positioned to provide coverage of the Middle East. Detachment B began flying missions in September and soon became the primary detachment for Middle East overflights, conducting nine out of the 10 such missions flown in October.[48]

Detachment B's first U-2 flight, on 11 September 1956, made passes over [redacted] The next flight, more than two weeks later, covered much the same ground but flew as far west as [redacted] Both were "special" missions aimed at [redacted] Other U-2 photographs revealed the presence

[48] *OSA History*, chap. 19, annex 120, "CIA U-2 Missions Flown, 1956-1968," pp. 1-2 (TS Codeword).

[49] Lundahl and Brugioni interview (TS Codeword).

[50] Dwight D. Eisenhower Diary, 15 October 1956, DDEL.

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[redacted] The Anglo-French military buildup greatly irritated President Eisenhower, who considered these activities a violation of the 1950 Tripartite Declaration, in which the United States, the United Kingdom, and France had agreed to maintain the status quo in armaments and borders in the Middle East.[51] [redacted]

U-2 photography continued to keep the President and other key officials well informed about the progress of the crisis. [redacted] Secretary of State John Foster Dulles told the President on 28 October that he believed an Israeli attack on Jordan was imminent, adding that he thought the British and French would take advantage of such an attack to occupy the Suez Canal.[52]

The 10-day Middle East war began on the afternoon of 29 October 1956 with Israeli paratroop drops in the Sinai peninsula, followed by mobile columns striking deep into Egyptian territory. The next day, 30 October, Francis Gary Powers conducted mission 1314. [redacted] where he photographed black puffs of smoke from the fighting between Israel and Egypt. Adana-based U-2s were in the air for the next two days filming the Suez Canal area [redacted]

The United Kingdom and France entered the fray on the evening of 31 October with bombing raids against major Egyptian airfields. The Anglo-French bombing campaign continued for the next 48 hours. Early on the morning of 1 November, an Adana-based U-2, piloted by William Hall, took off to gather intelligence on the [redacted] Hall flew south [redacted] where he made several passes to obtain complete coverage of the Israeli-Egyptian fighting there. He then headed west to Cairo, passing directly over the main Egyptian airbase

[51] Lundahl and Brugioni interview (TS Codeword).

[52] Telephone calls, 28 October 1956, DDE Diary, DDEL.

[53] [redacted] pp. 308-309; Mission folder 1314 (30 October 1956), OSA records, job 67-B-972, box 1 (TS Codeword).

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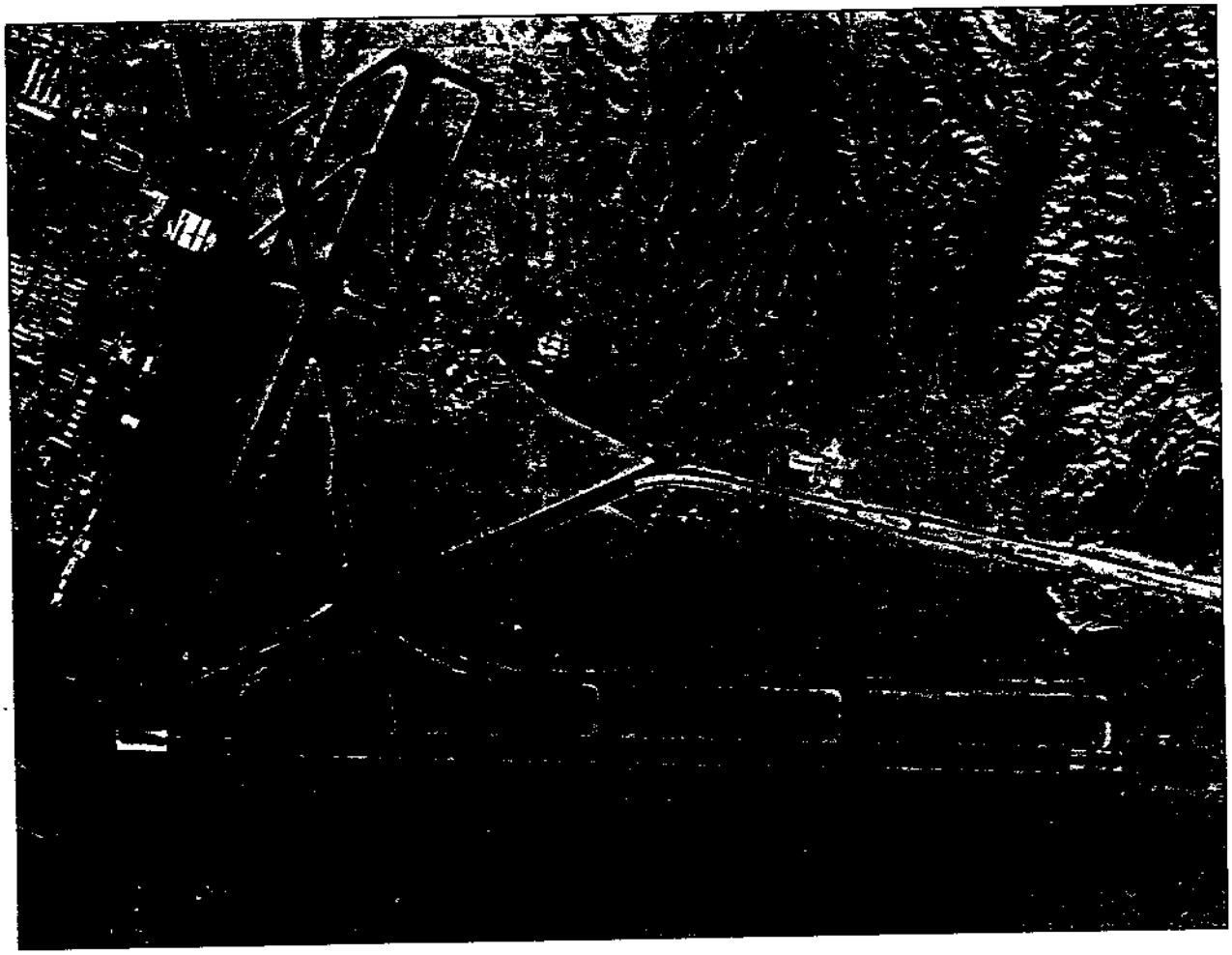

U-2 photography of Egyptian airbase at Almaza, 29 October 1956

at Almaza, where he filmed neatly arranged rows of Egyptian military aircraft. Continuing past Cairo to film another airfield, Hall turned southeast and then north to fly along the Nile, again crossing directly over Almaza. The photography from this leg of the mission revealed the burning wreckage of the Egyptian aircraft. During the short period of time that had passed between Hall's two passes, a combined Anglo-French air armada had attacked the airbase. When shown the before and after photos of Almaza, President Eisenhower told Arthur Lundahl: "Ten-minute reconnaissance, now that's a goal to shoot for!" [54] Eisenhower was pleased with the aerial photography but

[54] Lundahl and Brugioni interview (TS Codeword); Beschloss (*Mayday*, p. 138) mistakenly identifies this quote as coming from the British, but they did not receive copies of these photos.

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angered by what it depicted: an Anglo-French attack on Egypt. He quickly called for a cease-fire and denied the United Kingdom any further U-2 photographs of the Middle East.

The 1 November mission over Cyprus and Egypt also photographed Anglo-French preparations to invade Egypt. President Eisenhower was informed of this impending invasion on Sunday, 4 November. On the following day, British and French paratroopers dropped near Port Said at the north end of the Suez Canal. This action prompted Soviet Premier Nikolai Bulganin to send messages to France, Britain, and Israel warning that the Soviet Union was ready to use force to crush the aggressors.[55]

Early on the morning of election day, 6 November, the Anglo-French invasion armada arrived at Port Said and began landing troops. Back in Washington President Eisenhower met with Allen Dulles to discuss the deepening international crisis. Worried that the Soviet Union might be poised to intervene in the war, the President ordered Dulles to have the Adana-based U-2s fly over Syria to see whether the Soviets were moving planes to Syrian airbases in preparation for a strike against the forces attacking Egypt. The answer to Eisenhower's question came much sooner than expected because on the previous day a U-2 had already overflown Syria before making a run across northern Egypt. The film from this flight had reached Wiesbaden for processing and readout during the night. The results were in the hands of the PARAMOUNT Committee by midmorning on 6 November, while the President was motoring to Gettysburg to cast his ballot. By the time the President returned to the White House by helicopter at noon, Colonel Goodpaster was waiting for him with an answer: there were no Soviet aircraft in Syria. Because of the President's concern about possible Soviet moves, Syria was the target of 14 additional U-2 flights between 7 November and 18 December 1956.[56]

The increasing reliance on Adana-based U-2s for coverage of the Middle East during the Suez Crisis made it difficult for the photointerpreters to supply timely information. When Detachment B aircraft returned to their base at Adana, there were no film-processing

[55] Donald Neff, *Warriors at Suez: Eisenhower Takes America into the Middle East* (New York: Simon and Schuster, 1981), p. 403.

[56] Memorandum of Conference, 6 November 1956, Eisenhower Diary, Whitman File, DDEL (U); *OSA History*, chap. 19, annex 120, p. 3 (TS Codeword).

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facilities available, and the film had to be flown to Wiesbaden, adding a 10- to 15-hour delay. During the gradual buildup of the crisis, this delay had been tolerated, but, once actual hostilities broke out, US decisionmakers needed a more rapid response. On 29 October, Richard Bissell ordered Lundahl to establish a film-processing facility at Adana. Two PID employees went to Adana on 13 November to set up the facility, and two photointerpreters moved from Wiesbaden to Adana to help in the effort. Forward processing was, however, hampered by the location of the Adana facility on a flat, arid plain in southern Turkey, 35 miles from the Mediterranean at the very end of a long supply line.

The PID team obtained and outfitted a trailer for film processing, but many problems had to be overcome. The first major problem was obtaining enough clean water. Detachment B personnel, therefore, purchased large amounts of borax locally for use in purifying water. In fact, they bought so much borax on the local market that one of them was arrested by the Turkish police, who believed he was using the chemical to make drugs. It was also difficult to obtain a constant source of developers and fixers for processing the U-2 film, since the large Air Force supply facility at Wheelus AFB in Libya refused to provide the needed photographic chemicals. When PID personnel accompanied processed film from Turkey to the United States, they returned to Turkey sitting atop cartons of chemicals for the next day's processing. At first, film was developed in improvised tanks using flimsy wooden spools and hand-turned cranks to move the film through the solutions. Later, the Adana facility moved from its trailer to a building and received more up-to-date processing equipment. As was the case with the photo lab in Germany, the Adana lab's personnel came from the Agency and the armed forces.[57]

The need to produce very timely intelligence diminished after the British and French agreed to a cease-fire on 7 November 1956. By the end of the month, foreign troops began evacuating Egyptian territory, and the pressure on the Adana photointerpretation unit eased. The facility remained in existence, however, and was used twice in December 1956 and 11 times in the first half of 1957. It was then placed in caretaker status, for emergency use only.

[57] *NPIC History*, vol. 1, pp. 53-54 (S); Lundahl and Brugioni interview (TS Codeword).

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RENEWED OVERFLIGHTS OF THE SOVIET UNION

Throughout the fall of 1956, U-2s provided valuable coverage of the Middle East crisis, but they were not conducting their original mission of strategic reconnaissance of the Soviet Union. President Eisenhower had halted all such overflights by his order of 10 July, and, in the months that followed, he remained unconvinced by CIA arguments in favor of a resumption of overflights. On 17 September 1956, DDCI Cabell and Richard Bissell went to the White House to ask President Eisenhower to authorize more flights over the Soviet Union. Adm. Arthur W. Radford, Chairman of the Joint Chiefs of Staff, also attended the meeting. Bissell and Defense Department representatives reviewed the valuable intelligence from the July U-2 flights, and Bissell then informed Eisenhower that many important intelligence requirements remained unfilled. To fill these requirements, Bissell noted, would require photography of approximately 15 separate areas of the Soviet Union. Pleading for the authority to resume overflights, Bissell stressed that conditions for photography were becoming less favorable as the days grew shorter. While the U-2 was then still safe from interception, he added, it might not be in the future.[58]

President Eisenhower acknowledged the value of the U-2 but emphasized that the international political aspects of overflights remained his overriding concern. He said he would talk further with John Foster Dulles about the matter, noting that the Secretary of State had at first seemed to belittle the political risk but had later found it increasingly worrisome.

A little more than two weeks later, on 3 October, when the President again met with Bissell, Cabell, and Radford, John Foster Dulles was also present. In opening the meeting, Eisenhower said he had become discouraged regarding Project AQUATONE. Although he had been assured that "there would be a good chance of not being discovered on most, if not all, operations, just the opposite had proved true." The President observed that arguments in favor of resuming U-2 operations did not take world opinion into consideration. He added that great efforts had been made for many years "to create an opinion in the world that we are not truculent and do not want war," and, if knowledge of the U-2 overflights got out, world opinion would view them as "provocative and unjustified."[59]

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[58] Andrew J. Goodpaster, Memorandum of Conference, 17 September 1956, WHOSS, Alpha, DDEL (TS).

[59] Andrew J. Goodpaster, Memorandum for the Record, 3 October 1956, WHOSS, Alpha, DDEL (TS).

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Secretary of State Dulles said that, although he essentially agreed with the President's comments, he thought that "really important results" might be obtained by a seven to 10-day operation. He, nevertheless, questioned the long-term value of the results. DDCI Cabell replied that U-2 photographs would be useful much longer than the Secretary of State had implied because they would establish a reference bank of geographic and manmade features. Siding with Cabell, Admiral Radford pointed out the need for more intelligence to make estimates better.

President Eisenhower was not convinced by these arguments. Although willing to consider extensions of the radar-seeking ferret flights he had authorized along the Soviet borders, he remained opposed to penetration flights over the Soviet Union.

Events in Eastern Europe in the fall of 1956 helped to change the President's mind. In October the Soviet Union backed away from a confrontation with nationalist Communist leaders in Poland only to find itself facing a similar situation in Hungary, where mass demonstrations led to the formation of a new government under Imre Nagy on 23 October 1956. Soviet troops and tanks temporarily withdrew from Budapest while awaiting reinforcements. By early November, however, the Kremlin leadership decided that events in Hungary were getting out of hand—particularly when Premier Nagy announced his nation's withdrawal from the Warsaw Pact—and ordered Soviet troops to suppress the Hungarian uprising. Although President Eisenhower deplored the Soviet intervention, he turned down CIA requests for permission to airdrop arms and supplies to the Hungarian rebels. In fact, the President forbid all overflights of that nation, including those by U-2 aircraft, and none was made.[60]

Although President Eisenhower had not been willing to allow overflights during the Hungarian crisis, the Soviet Union's actions in Hungary convinced him to authorize renewed overflights of the Soviet Bloc, a decision that was made easier by his reelection by a large margin in early November. Initially, however, the President only authorized overflights of Eastern Europe and Soviet border regions, not the deep penetration overflights that had been requested by CIA. At a 15 November 1956 meeting with Acting Secretary of State Herbert Hoover, Jr. (John Foster Dulles was recovering from cancer

[60] Cunningham interview (TS Codeword).

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surgery), JCS Chairman Adm. Arthur Radford, DCI Allen Dulles, and Richard Bissell, Eisenhower explained why he refused to allow overflights of the Soviet Union: "Everyone in the world says that, in the last six weeks, the United States has gained a place it hasn't held since World War II. To make trips now would cost more than we would gain in form of solid information." Hoover agreed and noted, "If we lost a plane at this stage, it would be almost catastrophic." Torn between his desire to maintain a "correct and moral" position and his wish to know what the Soviet Union was up to, the President finally authorized several overflights of Eastern Europe and the Soviet border, "but not the deep one," adding that the aircraft should "stay as close to the border as possible." [61]

The first of these flights, mission 4016 on 20 November 1956, was the first overflight of Soviet territory since 10 July. This mission left Adana and flew east over Iran, then reversed and flew west along the Soviet-Iranian border to Soviet Armenia, where it crossed into the Soviet Union and photographed Yerevan. An electrical malfunction then forced the pilot, Francis Gary Powers, to return to Adana. Soviet interceptor aircraft made several unsuccessful attempts to reach this U-2, and the Soviet Government sent a secret protest note to Washington.[62]

On 10 December, Bulgaria was the target of two U-2 missions, one (4018) from Detachment B at Adana and another (2029) from Detachment A at Giebelstadt. Bulgarian fighter aircraft made 10 different attempts to intercept the first mission, but the flight proceeded without difficulty.[63]

The second flight came close to crashing but not through the efforts of interceptors. The pilot of mission 2029 was Carmine Vito, who had flown the first U-2 mission over Moscow on 5 July. He was known to his colleagues as the Lemon-Drop Kid because he always carried these hard candies in the knee pocket of his flight suit. Despite

[61] Andrew J. Goodpaster, Memorandum of Conference with the President, November 15, 1956, WHOSS, Alpha, DDEL (TS); Ambrose, *Eisenhower: The President*, p. 374.

[62] Mission folder 4016, 20 November 1956, OSA records, job 67-B-972, box 7 (TS Codeword).

[63] Mission folders 2029 (10 December 1956) and 4018 (10 December 1956), OSA records, job 67-B-328, box 7 and job 67-B-972, box 7 (TS Codeword).

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warnings to all pilots about the danger of opening the helmet faceplate at high altitudes, several pilots were known to do so. Some ate candy bars; Vito favored lemon drops. On the morning of 10 December, while Vito was undergoing prebreathing, the Air Force enlisted man who oversaw his preflight regimen placed an L-pill in the righthand knee pocket of Vito's flight suit, unaware that this pocket also contained Vito's supply of lemon drops. After he took off, Vito began indulging in his habit of sucking lemon drops. About midway into the mission, he opened his faceplate and popped into his mouth what he thought was another lemon drop. After closing the faceplate, he began sucking on the object and thought it strange that it had no flavor and was much smoother than the previous lemon drops. Although tempted to bite down, Vito decided instead to reopen his faceplate and see what it was he had in his mouth. Spitting the object into his hand, he saw that he had been sucking on the L-pill with its lethal contents of potassium cyanide. Just a thin layer of glass had stood between him and death. The loss of his aircraft over Bulgaria would have exposed the U-2 program to worldwide publicity and would probably have resulted in an early end to overflights.[64]

Detachment A's security officer overheard Vito relating the L-pill story to a fellow pilot several days later and promptly reported the conversation to headquarters. When details of Vito's close call reached Washington, James Cunningham immediately ordered L-pills placed in boxes so that there would be no chance of mistaking them for anything else. The L-pill continued to be available for another three years. Then in January 1960, the commander of Detachment B, Col. William Shelton, raised an important question that had never been considered: what would happen if an L-pill with its volatile contents accidentally broke inside the cockpit of a U-2? Realizing that such an accident would result in the death of the pilot, James Cunningham ordered the destruction of all L-pills and then turned to the Technical Services Division (TSD) for a better idea. By this time the state of the art in lethal devices was a needle poisoned with algal, an extremely deadly shellfish toxin. The needle was hidden in a tiny hole in a silver dollar supplied by Cunningham. Only one poison-needle coin was made because Cunningham decided that, if any pilot had to use it because of capture, there would probably not be any more overflights.[65]

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[64] Cunningham interview (TS Codeword); Carmine Vito, interview by Donald E. Welzenbach, Washington, DC, 7 May 1986 (S).

[65] Cable from Detachment B to Development Projects Division (DPD), 4 January 1960; cable from DPD to Detachment B, 7 January 1960, OSA records, job 67-B-972, box 18, "Operation KNIFE EDGE" (TS Codeword).

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Although the U-2 overflights of Eastern Europe in late 1956 caused renewed Soviet protests, the sharpest protest came on 15 December 1956, after three specially modified USAF RB-57D bombers photographed the city of Vladivostok in a high-speed dash over the Far Eastern coast of the Soviet Union (as part of the Air Force's Operation BLACK KNIGHT). President Eisenhower had approved the mission after being told by the Air Force that the high-speed RB-57Ds would probably not be detected.[66]

Reacting strongly to the Soviet protest, the President told Secretary of State Dulles on 18 December that he was going to "order complete stoppage of this entire business." As for a reply to the Soviet protest, Dulles said, "I think we will have to admit this was done and say we are sorry. We cannot deny it." Dulles noted that "our relations with Russia are pretty tense at the moment." Eisenhower agreed, noting that this was no time to be provocative. He then instructed Colonel Goodpaster to call Secretary of Defense Wilson, Joint Chiefs of Staff Chairman Radford, and DCI Dulles to order: "Effective immediately, there are to be no flights by US reconnaissance aircraft over *Iron Curtain* countries."[67]

Flights along the borders of Iron Curtain countries continued, however, and, on 22 December 1956, Detachment B flew the first mission (4019) by a U-2 equipped for electronic intercept. The electronic-detection equipment known as the System-V unit (see appendix C) was installed in the bay normally used by the main camera, and the plane flew along the Soviet border from the Black Sea to the Caspian Sea and on to Afghanistan. The System-V unit worked well.[68]

Early in 1957, a mission along the Soviet border accidentally turned into an overflight. On 18 March 1957, a U-2 collecting electronic intelligence along the Soviet southern border entered Soviet

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[66] Goodpaster interview (S).

[67] Telephone calls 18 December 1956, DDE Diary, DDEL, (U); Andrew J. Goodpaster, Memorandum for the Record, 18 December 1956, WHOSS, Alpha, DDEL (TS, downgraded to S); the Soviet protest note of 15 December 1956 and the U.S. reply of 11 January 1957 are contained in "Alleged Overflight of Soviet Area by American Planes," *US Department of State Bulletin*, vol. 36, 28 January 1957, p. 135. Although Dulles's initial inclination had been to offer an apology, the U.S. reply stated that the "only authorized United States Air Force flights in the general area of the Sea of Japan were normal training activities."

[68] Mission folder 4019 (22 December 1956), OSA records, job 67-B-972, box 7 (TS Codeword).

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airspace because of compass error compounded by a slight error in the pilot's dead reckoning. Because of heavy cloud cover, the pilot, James W. Cherbonneaux, did not realize he was over the Soviet Union until he saw Soviet fighters attempting to intercept him. These attempts at interception once again demonstrated the Soviets' ability to track the U-2 and their inability to harm it.[69]

At this point in early 1957, the U-2 program was in limbo. Although the President would not allow U-2s to fly their primary mission of reconnaissance of the Soviet Union, he did not cancel the program and continued to authorize flights along Soviet borders. The CIA's overhead reconnaissance program also faced a renewed bid by the Air Force, which now had its own growing U-2 fleet, to gain control of the overflight program in the spring of 1957. The uncertainty surrounding the future of the project made planning and budgeting extremely difficult. In April 1957, Richard Bissell asked the DCI and DDCI to push for a decision on whether the U-2 program was to continue in civilian hands and what its scope was to be. In briefing papers prepared for the DCI, Bissell argued for maintaining a nonmilitary overflight capability, which could "maintain greater security, employ deeper cover, use civilian pilots, keep the aircraft outside military control, and, therefore, make possible more plausible denial of US military responsibility in the face of any Soviet charges." In urging the resumption of overflights, Bissell stated that four U-2 missions over border regions of the Soviet Union or Eastern Europe had been detected by the Soviets without causing any diplomatic protest. He also noted that the President's Board of Consultants on Foreign Intelligence Activities had unanimously recommended the resumption of overflights.[70]

All of these issues were discussed on 6 May 1957, when President Eisenhower met with Deputy Secretary of Defense Donald Quarles, Air Force Chief of Staff Nathan Twining, Acting Secretary of State Christian Herter, and three CIA officals—DCI Dulles, DDCI Cabell, and Richard Bissell. The President expressed concern about the impact of overflights on US-Soviet relations and about possible Soviet responses such as closing off access to Berlin. Although

[69] Information supplied by James W. Cherbonneaux to Donald E. Welzenbach (S); Mission folder 4020 (18 March 1957), OSA records, job 67-B-972, box 7 (TS Codeword).

[70] *OSA History*, chap. 4, pp. 15-16; annex 22 (TS Codeword).

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remaining opposed to flights over most of the Soviet Union, Eisenhower finally agreed to permit some flights over peripheral areas such as Kamchatka Peninsula and Lake Baikal, as well as the Soviet Union's atomic testing area at Semipalatinsk. Such overflights could be staged from Pakistan if the Pakistani Government consented. The President rejected the Air Force's request to take over the U-2 program, stating that he preferred to have the aircraft manned by civilians "during operations of this kind." [71]

The President had once again agreed to allow overflights of the Soviet Union, although only over certain areas, because the need to learn more about the capabilities and intentions of the Soviet Union was too compelling. In particular, the President and top administration officials wanted to gather more data on the Soviet Union's missile program, a subject for which considerable Soviet boasting—but no hard data—was available.

Even after he had authorized the resumption of overflights, President Eisenhower maintained tight control over the program. He personally authorized each overflight, which meant that Richard Bissell would bring maps to the White House with the proposed routes marked on them for the President to examine. More than once, according to Bissell, Eisenhower spread the map out on his Oval Office desk for detailed study, usually with his son John (an Army officer serving as a White House aide) and Colonel Goodpaster looking over his shoulder. On occasion, the President would pick up a pencil and eliminate a flight leg or make some other correction to the flight plan.[72]

RADAR-DECEPTIVE "DIRTY BIRDS"

One additional reason why President Eisenhower had again authorized overflights of the Soviet Union was renewed CIA promises that Soviet detection or tracking of the U-2 was unlikely. At the 6 May 1957 meeting with the President, Richard Bissell reported on the progress that had been made in developing radar camouflage and

[71] Andrew J. Goodpaster, Memorandum of Conference with the President, 6 May 1957 (TS); "Record of Action—Meeting of May 6, 1957," WHOSS, Alpha, DDEL (TS).

[72] Bissell interview by Welzenbach (S); Beschloss, *Mayday*, p. 140.

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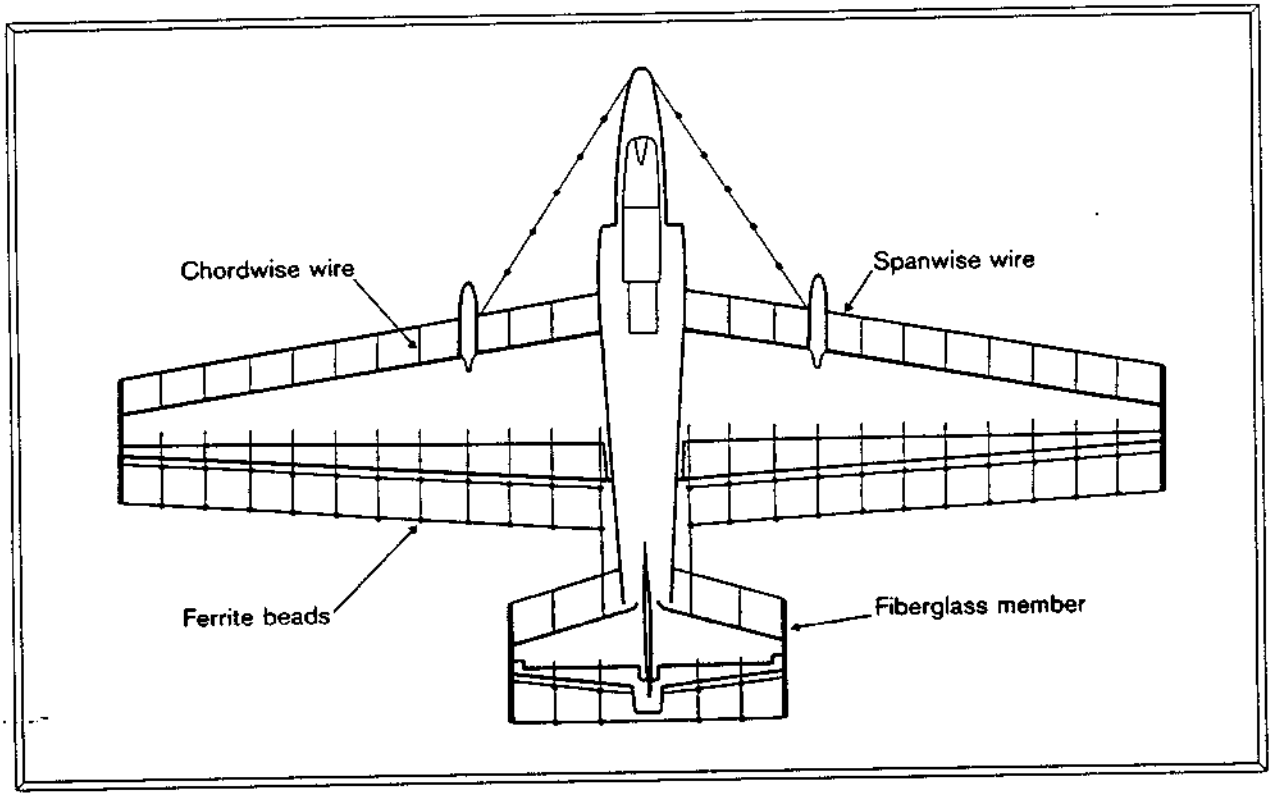

"Trapeze" antiradar attachments to the U-2

absorption devices for the U-2. Once these devices were installed on the operational U-2s, he explained, the "majority of incidents would be undetected." [73]

Work on methods of reducing the U-2's vulnerability to radar detection had begun in the fall of 1956 as the result of President Eisenhower's disenchantment with the overflight program following Soviet detection and tracking of the first series of U-2 missions. The CIA proprietary firm Scientific Engineering Institute was conducting this research under a project codenamed RAINBOW. SEI Chief Engineer Dr. Franklin A. Rodgers, formerly of MIT, converted the theories of Harvard physicist Edward Purcell into systems that could be used on aircraft. SEI's radar-deception system consisted of a series of attachments to the U-2. First bamboo poles and later fiberglass rods were attached to the wings, where they would not interfere with the control surfaces. At the ends of these poles, completely circling

[73] Andrew J. Goodpaster, Memorandum of Conference with the President, 6 May 1957 (TS); "Record of Action—Meeting of May 6, 1957," WHOSS, Alpha, DDEL (TS).

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the aircraft, was a small-gauge wire with precisely spaced ferrite beads. The wire and beads were supposed to capture incoming 70-MHz radar pulses and either trap them in the loop or weaken them so much that they would not register as a valid radar return. This configuration was called the trapeze and was not very successful.

A second approach, tested in early 1958, involved the use of plastic material containing a printed circuit designed to absorb radar pulses in the 65- to 85-MHz range. Nicknamed "wallpaper," this material was glued to parts of the U-2's fuselage, nose, and tail. Although the "trapeze" and "wallpaper" systems provided protection against some Soviet radars, the systems proved ineffective against radars operating below 65-MHz or above 85-MHz. Furthermore, both of these additions degraded the U-2's performance. The weight and drag of "trapeze" reduced the aircraft's operating ceiling by 1,500 feet, and "wallpaper" sometimes caused engines to overheat.[74]

SEI's research results were tested by another firm known as Edgerton, Germeshausen & Grier (EG&G), which was also composed of MIT faculty members. Under an Air Force contract to evaluate radars, EG&G operated a small testing facility at Indian Springs, Nevada, not far from Area 51. Although Kelly Johnson had been closely involved with the radar deception project since its early days, he cooperated reluctantly because he disliked adding attachments that made his aircraft less airworthy. (Johnson's dislike of the antiradar attachments was reflected in the unofficial nickname for aircraft that had been so modified—"dirty birds.") After Lockheed mechanics had mounted the various RAINBOW devices on the prototype U-2, a Lockheed test pilot would fly the plane over EG&G's Indian Springs installation. This was little more than a series of radar sets and a trailer containing instrumentation. EG&G technicians could thus record and evaluate the U-2's radar returns as it traversed a specified course over their facility.[75]

This method of testing radar-deceptive modifications proved both time consuming and dangerous. During a test flight on 2 April 1957, the "wallpaper" modification acted as insulation around the

[74] Records of the Scientific Engineering Institute (Project HTNAMABLE). OSA records (TS Codeword).

[75] References to EG&G programs for the U-2 are contained in the later Convair contracts for Projects FISH and KINGFISH, OSA records, job 67-B-415, box 1 (TS Codeword).

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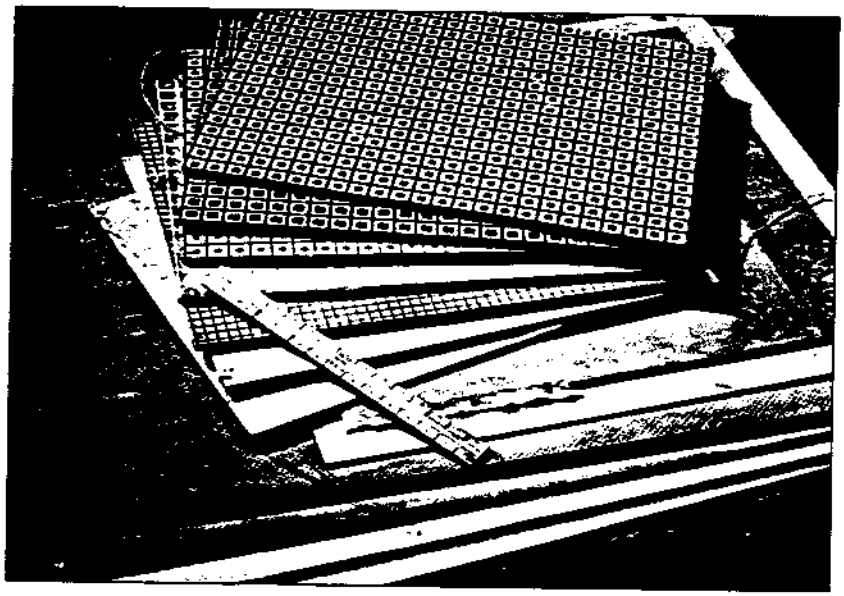

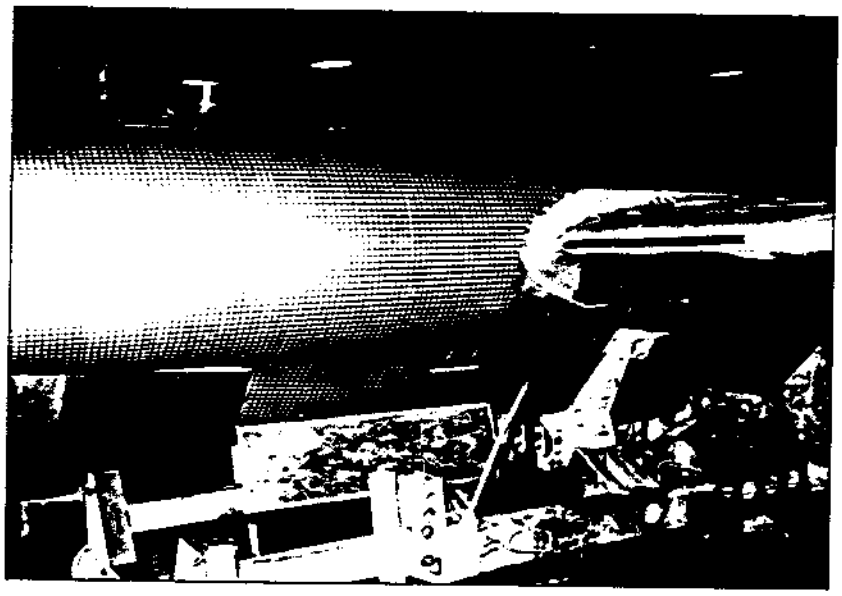

"Wallpaper"

engine of the U-2 known as article 341, causing it to overheat and flameout. Unable to restart the power plant, Lockheed test pilot Robert Sieker bailed out but was struck and killed in midair by the U-2's tailplane. The aircraft crashed in an area of Nevada so remote that Area 51 search teams needed four days to locate the wreckage. The extensive search attracted the attention of the press, and a

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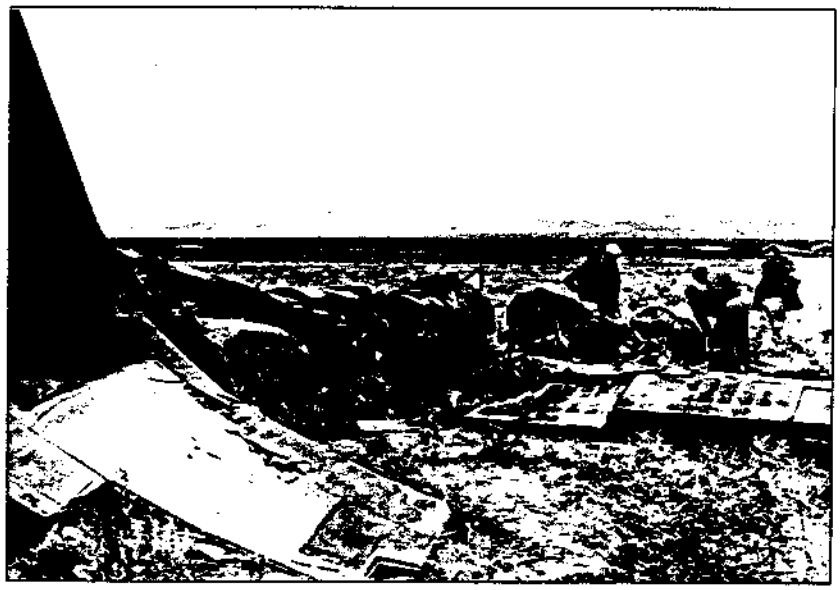

Wreckage of Article 341, 2 April 1957

12 April 1957 article in the *Chicago Daily Tribune* was headlined, "Secrecy Veils High-Altitude Research Jet; Lockheed U-2 Called *Super Snooper.*" [76]

Because of its large wingspan, an out-of-control U-2 tended to enter a classical flat spin before ground contact. This slowed descent and actually lessened the impact. If there was no fire after impact, the remains of crashed U-2s were often salvageable, as was the case with the wreckage of article 341. Kelly Johnson's crew at the Skunk Works used the wreckage, along with spares and salvaged parts of other crashed U-2s, to produce another flyable airframe for about $185,000.[77] The U-2's ability to survive a crash in fairly good condition should have been noted by the Development Projects Staff for consideration in its contingency plans for a loss over hostile territory because the equipment on board the aircraft could easily compromise the weather research cover story.

The loss of one of Lockheed's best test pilots, as well as the prototype "dirty bird" U-2, led Kelly Johnson to suggest that Lockheed install a large boom at the Indian Springs radar test facility. Using the

[76] Accident folder, crash of 2 April 1957, OSA records (S).

[77] Lockheed contracts, OSA Records (S).

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boom, which could lift entire airframes 50 feet in the air, technicians could change the airframe's attitude and run radar tests almost continuously without having to fuel and fly the plane.[78]

By the summer of 1957, testing of the radar-deception system was complete, and in July the first "dirty bird" (DB) arrived at Detachment B. The first operational use of this aircraft occurred on 21 July 1957 in mission 4030 over Iran, Iraq, and Syria. On 31 July, the same aircraft made a run over the Black Sea. There were a total of nine DB missions over the USSR. The antiradar system did not prove very effective, and its use was curtailed in May 1958.[79]

THE NEW DETACHMENT C

On 8 June 1957, a U-2 took off from Eielson Air Force Base in Alaska to conduct the first intentional overflight of the Soviet Union since December 1956. This mission broke new ground in two respects: it was the first overflight conducted from American soil and the first by the new Detachment C.

Detachment C (known officially as Weather Reconnaissance Squadron, Provisional-3) was composed of the third group of pilots to complete their training in Nevada. In the autumn of 1956, this third detachment needed a new base because Area 51 was about to become the training site for a large number of Air Force pilots who would fly the 29 U-2s purchased by the Air Force. The Agency decided that the best location for Detachment C would be the Far East and began looking for bases there.

Even without the arrival of the Air Force pilots, Detachment C could not have stayed in Nevada much longer. In June 1957, the entire facility had to be evacuated because the Atomic Energy Commission was about to conduct a series of nuclear tests whose fallout was expected to contaminate the Groom Lake facility. All remaining CIA personnel, materiel, and aircraft were transferred to Edwards AFB, California, and became known as Detachment G.

[78] Ibid (S).

[79] Cunningham interview (TS Codeword).

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The search for a new home for Detachment C led the Agency to ask the Air Force in the autumn of 1956 for permission to locate the detachment at Yokota AFB, Japan. Because Yokota was already the base for one covert project (the very secret Air Force Project BLACK KNIGHT using RB-57s), Air Force Chief of Staff Twining did not wish to locate another one there and denied the request. The Agency then turned to the Navy, which granted permission for Detachment C to use the Naval Air Station at Atsugi, Japan. The Japanese Government received no notification of the proposed deployment because at that time it had no control over activities involving US military bases in Japan. Deployment of Detachment C began in early 1957 but was complicated by a recent decision to permit the families of Project AQUATONE employees to accompany them on overseas tours. As a result, program managers had to find housing facilities on the base or in nearby communities, not an easy task in crowded Japan.[80]

Detachment C began conducting missions in June 1957 after several aircraft and pilots flew to Eielson Air Force Base near Fairbanks, Alaska. Air Force radar order-of-battle reports and NSA studies had revealed that the radar network in the Soviet Far East, with antiquated radar sets and personnel of a lower caliber than those in the western Soviet Union, was relatively ineffective. To take advantage of these weaknesses, Detachment C staged three missions from Alaska into the Soviet Far East. The first, on 7/8 June (the aircraft crossed the international date line during the flight), was unable to photograph its target, the ICBM impact area near Klyuchi on the Kamchatka Peninsula, because of bad weather and, therefore, never entered Soviet airspace. A second attempt to photograph Klyuchi on 19/20 June was marred by a camera malfunction that ruined every third frame of photography. This flight was tracked by Soviet radars, but there was no attempt at interception. After a pause of almost three months during which Detachment C received a dirty-bird U-2, the detachment's third mission over Klyuchi on 15/16 September 1957 achieved excellent results. The radar-deception devices proved ineffective, however, as the U-2 was tracked by Soviet radar and trailed by five fighters.[81]

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[80] *OSA History*, chap. 15, pp. 2, 16-19; chap. 16, p. 1 (TS Codeword).

[81] Mission folders 6002 (8 June 1957), 6005 (20 June 1957), and 6008 (16 September 1957), OSA records, job 67-B-328, box 7 (TS Codeword).

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DETACHMENT B FLIGHTS FROM PAKISTAN

The most important series of overflights in the summer of 1957 were those that Detachment B staged to gather intelligence on the Soviet Union's guided missile and nuclear programs. President Eisenhower had approved these overflights at the meeting on 6 May 1957, pro-

The airfield at Peshawar, a more desirable location, was not available because of repair work. Detachment B at Ankara ferried four of its U-2s, two of which were dirty birds, to Lahore. A C-124 brought in eight pilots and ground crews to prepare for missions over the Soviet Union and the People's Republic of China (PRC) beginning on 4 August (Operation SOFT TOUCH). During a 23-day period, these aircraft made nine flights: seven over the USSR and two over the PRC. Although one of the seven flights over the USSR was a failure because the camera malfunctioned after taking only 125 exposures, the remaining missions over Central Asia were a complete success, producing a bonanza of information that kept scores of photointerpreters busy for more than a year.[82]

The 5 August flight, a dirty bird piloted by Buster Edens, was the first to photograph the major Soviet space launch facility east of the Aral Sea in Kazakhstan. None of the mission planners was certain just where the range was located, so the U-2 pilot followed the rail lines in the area. As a result, the plane did not pass directly over the rangehead and obtained only oblique photography.

Although known in the West today as Tyuratam, this missile installation had no name when it was first photographed in August 1957. In preparation for a briefing to President Eisenhower on the SOFT TOUCH photography, Dino Brugioni, an assistant to PID chief Arthur Lundahl, examined all the existing maps of the area to see if he could find a place name for the missile base. Only one map, made by the Germans during World War II, showed a community in the vicinity of the missile facility. The settlement's name was Tyuratam, which means "arrow burial ground" in the Kazakh language, and this

[82] *OSA History*, chap. 12, pp. 19-20 (TS Codeword); *NPIC History*, vol. 1, pp. 159-161 (S).

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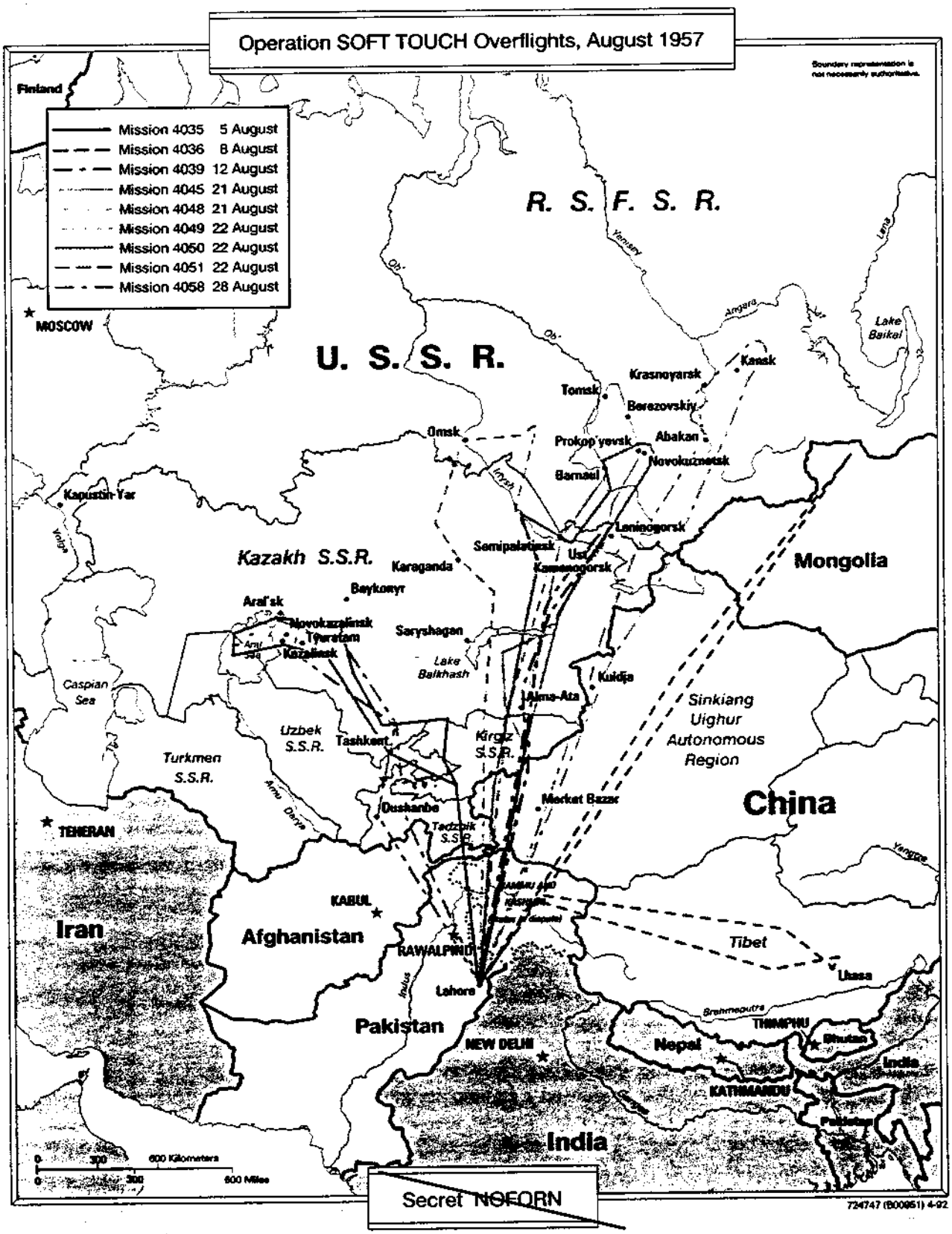

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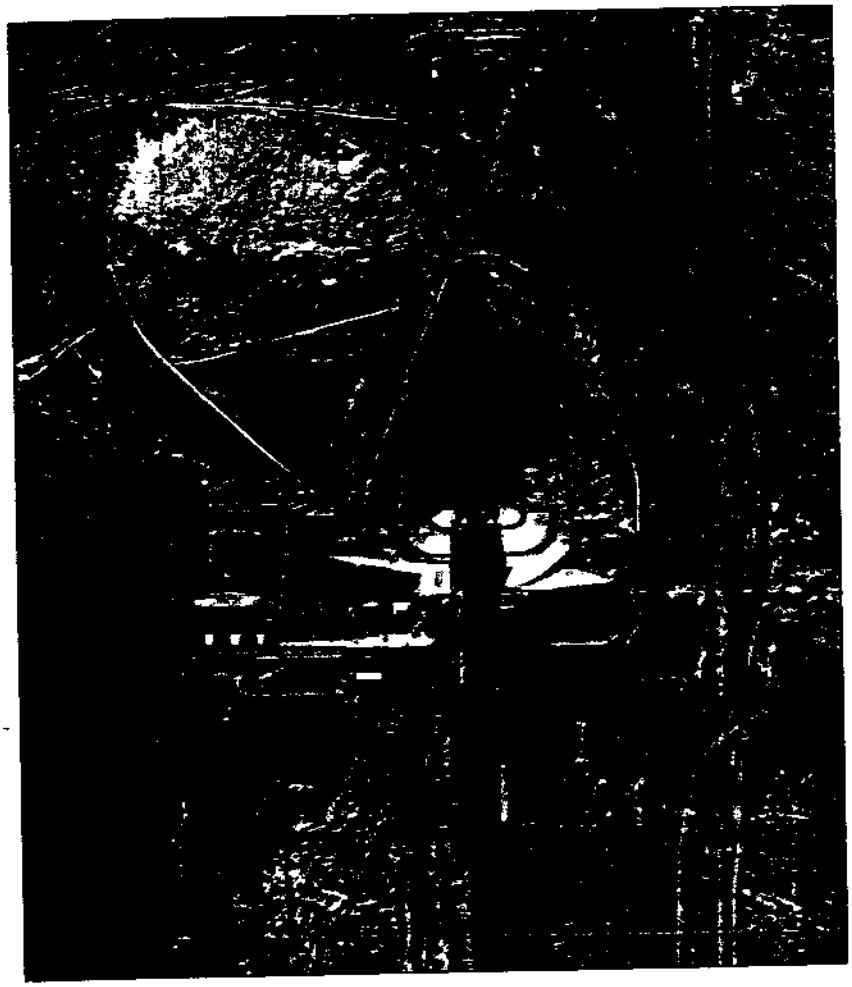

U-2 photography of Tyuratam Missile Testing Range

was the name Brugioni gave the missile base. Official Soviet releases concerning this base have always referred to it as Baykonur, but the community of Baykonyr is actually more than 200 miles north of Tyuratam.[83]

While PID was still analyzing the SOFT TOUCH photography, the Soviet Union announced the successful launch of an intercontinental ballistic missile (ICBM) from Baykonyr (Tyuratam). On 26 August 1957, the Soviet news agency TASS stated that a "super-long-range multistage intercontinental ballistic rocket" had been successfully tested, adding "it is now possible to send missiles to any

[83] Lundahl and Brugioni interview (TS Codeword).

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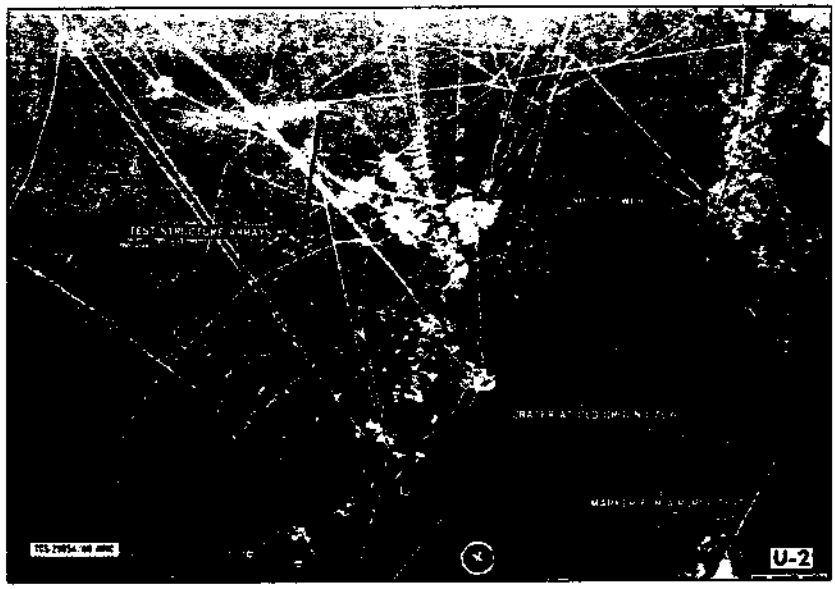

Semipalatinsk Nuclear Weapons Proving Ground, 22 August 1957

part of the world."[84] The Soviet announcement made the intelligence community want even more information on Tyuratam, and a second U-2 piloted by Edwin K. Jones flew over the area on 28 August 1957, just one week after the Soviet ICBM launch. This mission obtained excellent vertical photographs of the main launch complex, and photointerpreters soon determined that the Soviets had only one launchpad at Tyuratam. The base was not photographed again until 9 July 1959, at which time it still had only one launch pad, although two more were under construction.[85]

On 20 and 21 August 1957, U-2s conducted the first overflights of the Soviet nuclear testing grounds at Semipalatinsk, north-northwest of Lake Balkhash. The first mission, piloted by Sammy V. C. Snider, passed over part of the proving grounds, flew on to Novokuznetsk, and then proceeded to Tomsk, where it began its return leg that included coverage of a very large uranium-processing facility at the new city of Berezovskiy. In the second mission, James Cherbonneaux flew directly over the Semipalatinsk proving grounds only four hours before a half-megaton device was detonated. In fact, the U-2 unknowingly photographed the aircraft that was to drop the

[84] "Is Russia Ahead in Missile Race," *US News and World Report*, 6 September 1957, pp. 30-33.

[85] Mission folders 4058 (28 August 1957) and 4125 (9 July 1959), OSA records, job 67-B-972, boxes 8 and 11 (TS Codeword).

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nuclear device. These photographs also revealed evidence of a recent, low-yield, above-ground nuclear test [redacted]

On its way to Semipalatinsk, the 21 August mission flew a search pattern over the western end of Lake Balkash looking for another Soviet missile-related installation and made the first photographs of what was later determined to be the new missile test center at Saryshagan. This facility was used to test radars against incoming missiles fired from Kapustin Yar, 1,400 miles to the west. Saryshagan later became the center for the development of the Soviet Union's advanced antiballistic missile (ABM) weapon system.

On 23 August 1957, DDCI Cabell, Richard Bissell, and Air Force Chief of Staff Twining met with President Eisenhower to report on the results of Operation SOFT TOUCH. They showed the President some of the photographic results of the earlier missions and reported on the effects of the antiradar measures. Although the antiradar measures had not proved successful, the photographic yield from the missions was extremely valuable. Bissell then informed the President that the SOFT TOUCH operation was just about to conclude with the transfer of the aircraft back to Adana. He asked permission for one of the U-2s to make another overflight of the Soviet Union on this return trip, but the President denied the request, not wishing to conduct any more overflights than were necessary.[47]

THE DECLINE OF DETACHMENT A

During the summer of 1957, all overflights of the Soviet Union were conducted by either Detachment B or Detachment C. Detachment A in Germany was a less desirable starting point for overflights of the Soviet Union because such missions had to cross Eastern Europe first, increasing the likelihood of detection and diplomatic protests. Furthermore, the Soviet Union's air defense and radar networks were strongest along its western borders, so Detachment B missions over the southern portion of the Soviet Union and Detachment C missions

[46] Mission folder 4045 (20 August 1957) and 4050 (21 August 1957), OSA records, job 67-B-972, box 8 (TS Codeword).

[47] Andrew J. Goodpaster, Memorandum for the Record, 23 August 1957, WHOSS, Alpha, DDEL (TS).

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in the Far East were less risky than those conducted by Detachment A. Finally, the main target of U-2 photography after the bomber issue receded was Soviet missile and nuclear progress. The testing areas for these weapons were located in the vast open spaces of the south-central and eastern portions of the Soviet Union, which lay beyond the range of Detachment A's aircraft.

The decline in importance of Detachment A had begun with the President's standdown order of 10 July 1956. During the next three months, the detachment conducted only 11 missions, all over the Mediterranean region rather than the original target of the Soviet Union, and the slow pace of activity and change in mission adversely affected pilot morale. One of the detachment's aircraft was lost in a crash on 17 September, killing pilot Howard Carey and garnering unwanted publicity. Conditions improved when the detachment moved to the newly renovated facility at Giebelstadt in early October 1956, but security now became a problem there. Detachment A personnel discovered that a long, black Soviet-Bloc limousine was parked at the end of the Giebelstadt runway whenever the U-2s took off.[88]

During the next year, Detachment A mounted only four overflights. The first two were over Eastern Europe: one over Bulgaria on 10 December 1956 and the other over Albania on 25 April 1957. Then a long period of inactivity followed, ending with a third mission on 11 October 1957, which conducted electronic surveillance of Soviet naval maneuvers in the Barents Sea. The final overflight of Detachment A, mission 2040 on 13 October 1957, flew north over

Although the final missions of Detachment A achieved excellent results, project headquarters had already decided that Western Europe was not a satisfactory location for overflights of the Soviet Union and had notified Detachment A on 20 September 1957 that its operations would cease in November. By 15 November 1957, all of the detachment's personnel and aircraft had returned to the United States. During Detachment A's 17-month period of operations, seven pilots

[88] *OSA History*, chap. 11, pp. 41-42 (TS Codeword).

[89] Mission folders 4018 (10 December 1956), 2036 (25 April 1957), 2037 (11 October 1957), 2040 (13 October 1957), OSA records, job 67-B-972, box 7, and job 67-B-328, box 6 (TS Codeword).

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had flown a total of 23 missions: six over the Soviet Union, five over Eastern Europe, and most of the remaining 12 missions over the Mediterranean area.[90]

[90] *OSA History*, chap. 11, p. 44; chap. 19, annex 120 (TS Codeword).

[91] Ibid., chap. 11, pp. 44-45 (TS Codeword); *NPIC History*, vol. 3, pp. 447-8 (S).

[92] Mission folders 1482 (9 October 1958), 4092 (25 October 1958), and 4093 (6 November 1958), OSA records, job 67-B-972, boxes 3 and 10.

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DECLINING OVERFLIGHT ACTIVITY

Operation SOFT TOUCH (4-27 August 1957) proved to be the high water mark of U-2 operations against the Soviet Union. Detachment B staged one more overflight on 10 September 1957, when a U-2 piloted by William Hall flew from Adana to photograph the Kapustin Yar Missile Test Range for the first time since the RAF's overflight in 1953, obtaining photographs of a large medium-range ballistic missile (MRBM) on the launchpad. Six days later Detachment C conducted its successful overflight of the ICBM impact site at Klyuchi, and October saw the final two overflights of Detachment A. After these missions, penetration overflights became a rarity. There would be only six more during the next 32 months: one, in 1958; two, in 1959; and three, in 1960 (one of which was unsuccessful). During this period, President Eisenhower did authorize a number of flights along Soviet border areas that occasionally penetrated short distances inside the border, but the Chief Executive had become extremely wary of authorizing "deep penetration" overflights, which invariably brought protests from Moscow.

The border flights took place under tight controls. Beginning in the fall of 1957, all messages from Washington to Adana giving coordinates for flights along the Soviet border contained the statement: "This is not a penetration overflight" and warned about flying too close to Soviet borders. The Soviets even attempted to shoot down

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U-2s flying well within international airspace above the Black Sea, as was the case on 27 October 1957, when electronic intelligence equipment on a U-2 flight over the Black Sea that never violated Soviet airspace revealed 12 attempts at interception by Soviet fighters.[93]

The sole U-2 overflight of 1958 was conducted by a dirty bird from Detachment C. On 1 March 1958, mission 6011 overflew the Soviet Far East and photographed the Trans-Siberian Railroad, Sovetskaya Gavan', the Tatar Strait, and a strange installation at Malaya Sazanka, which was eventually determined to be a structure for mating nuclear devices with their detonators. This was the first and only U-2 overflight of the Soviet Union staged from Japan.[94]

On 5 March 1958, the Soviet Union delivered a vigorous protest concerning this mission, prompting President Eisenhower to tell Colonel Goodpaster on 7 March to inform the CIA that U-2 flights were to be "discontinued, effective at once."[95] This standdown was to last more than 16 months, until July 1959. The Soviets had not been fooled by the antiradar devices carried by mission 6011, as was demonstrated by the detailed information about the mission contained in a Soviet aide-memoire delivered on 21 April 1958. It was clear that dirty bird aircraft were not effective and that Soviet radar operators had little difficulty in tracking them. At this point, the Agency abandoned the use of the antiradar devices on the U-2. As a substitute, Lockheed began working to develop a paint with radar-suppressant qualities, but this project also proved unsuccessful.

The U-2s were not the only cause for the Soviet protests that so vexed the President. On 27 June 1958, [redacted] Ten days later the Air Force began launching balloons designed to fly across the Soviet Union and Eastern Europe. This new balloon project (known as WS-461L) had been authorized by President Eisenhower on 25 June after Deputy Secretary of Defense Donald Quarles argued that a small number of balloons should be

[93] Mission folder 4061 (27 October 1957), OSA records, job 67-B-972, box 8 (TS Codeword).

[94] Mission folder 6011 (1 March 1958), OSA records, job 67-B-972, box 13 (TS Codeword).

[95] Andrew J. Goodpaster, Memorandum for the Record, 7 March 1958, WHOSS, Alpha, DDEL (TS, declassified).

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launched to take advantage of a newly discovered change in the west-to-east jet stream. Normally, this fast-moving air current stayed at an altitude of 55,000 feet, but, during June and July, it turned abruptly upward over the Bering Sea just west of Alaska, climbed to 110,000 feet, and then reversed direction. One of the key arguments that convinced the President to approve the project was Quarles's claim that the balloons' "chance of being detected is rather small and their identification or shootdown practically nil." [96]

Release of the balloons took place from an aircraft carrier in the Bering Sea on 7 July 1958. Nothing was heard about them until 28 July, when Poland sent a note protesting the overflight of a US-made, camera-carrying balloon that had fallen to earth in central Poland. The loss of this balloon was because of human error. Each balloon was equipped with a timing device that would cause it to drop its camera and film payload after crossing the target areas. An Air Force technician aboard the aircraft carrier had calculated that the balloons should cross the Eurasian landmass in about 16 days. Thus, he adjusted regulators aboard the balloons to cause automatic descent after 400 hours aloft. When bad weather delayed the launch for three successive days, however, the technician forgot to reset the timing devices. As a result, one payload fell into Poland. None of the three WS-461L balloon payloads was recovered.[97]

The Polish protest was quickly followed by a Soviet note protesting the balloons' violation of the Soviet Union's airspace. Several months later, the Soviets placed the US balloon and photographic equipment on display in Moscow for the world's press. President Eisenhower was angry that the Defense Department's assurances that the balloons would not be detected had proved false. Even worse, one of the balloons had been recovered by the Poles because the Air Force had disobeyed his instructions for the balloon project. When the Air Force had proposed the use of timers to bring down the balloons at the end of the mission, Eisenhower had said no, fearing that a malfunction could cause the balloons to come down prematurely. Furious at the Air Force's insubordination, the President ordered General

[96] Andrew J. Goodpaster, Memorandum for the Record, 25 June 1958, WHOSS, Alpha, DDEL (TS).

[97] Donald E. Welzenbach, "Observation Balloons and Weather Satellites," *Studies in Intelligence* 30 (Spring 1986): pp. 26-28 (S).

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Equipment from a WS-461L balloon on display in Moscow, 11 October 1958

Goodpaster on 29 July 1958 to tell the Air Force that "the project is to be discontinued at once and every cent that has been made available as part of any project involving crossing the Iron Curtain is to be impounded and no further expenditures are to be made." [98]

Two days later Eisenhower followed up this order with a formal memorandum to Secretary of Defense Neil McElroy telling him that "there is disturbing evidence of a deterioration in the processes of discipline and responsibility within the armed forces." He cited, in particular, "unauthorized decisions which have apparently resulted in certain balloons falling within the territory of the Communist Bloc" and overflights over routes "that contravened my standing orders." [99]

On 2 September 1958, there was another violation of Soviet airspace when an unarmed Air Force EC-130 on an electronic intelligence collection mission crossed from Turkey into Soviet Armenia and was shot down by Soviet fighter aircraft. Six of the men on board were killed and the remaining 11 were never heard from again, despite State Department attempts to get the Soviet Union to reveal their fate.[100]

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[98] Andrew J. Goodpaster, Memorandum for the Record, 29 July 1958, WHOSS, Alpha, DDEL (S); Goodpaster interview (S).

[99] Quoted in Ambrose, *Eisenhower: The President*, pp. 475-476.

[100] "US Representations to the Soviet Government on C-130 Transport Shot Down by Soviet Fighter Aircraft," *US Department of State Bulletin*, 23 February 1959, pp. 262-271; Beschloss, *Mayday*, p. 159.

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President Eisenhower was disturbed by the increased superpower tension that had resulted from violations of Soviet airspace by US balloons and aircraft because he still hoped to enter into arms limitation negotiations with the Soviets. On 8 September 1958, the United States sent a note to the Soviet Union calling for a Soviet answer to US proposals for a "study of the technical aspects of safeguards against the possibility of surprise attack." One week later the Soviets agreed to participate and suggested that the talks begin in Geneva on 10 November 1958. President Eisenhower was also attempting to persuade the Soviet Union to begin talks aimed at eliminating the atmospheric testing of nuclear weapons. These efforts began with a 22 August 1958 offer to suspend US nuclear tests for one year on the condition that the Soviet Union also refrain from further tests and join in negotiations. On 30 August, Soviet Premier Nikita Khrushchev accepted the proposal and agreed to start talks on 31 October 1958 in Geneva. When the talks began, however, the Soviets refused to agree to a test ban and carried out nuclear tests at Semipalatinsk on 1 and 3 November. Nevertheless, during the late summer and early autumn of 1958, President Eisenhower, determined to reduce to a minimum any aggravation of the Soviets, kept the U-2 overflight program in limbo.[101]

In November 1958, relations with the Soviet Union worsened after Khrushchev precipitated a new crisis over West Berlin by announcing plans to sign a peace treaty with East Germany by May 1959. He stated that such a treaty would terminate Allied rights in West Berlin. Four days later, Soviet troops began harassing US Army truck convoys on the highways leading from West Germany to West Berlin. Although this new Berlin crisis never became as threatening as the blockade of 1948-49, President Eisenhower wished to avoid any actions that would provoke the Soviets. Tension over West Berlin was, therefore, an additional reason for continuing to keep the U-2 away from the Soviet Bloc.[102]

CONCERNS ABOUT SOVIET COUNTERMEASURES AGAINST THE U-2

Another reason for President Eisenhower's growing reluctance to authorize flights over the Soviet Union may have been concern that the Soviets were developing countermeasures that would enable them to

[101] Ambrose, *Eisenhower: The President*, pp. 489-491.

[102] Ibid., pp. 502-504.

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shoot down a U-2. Before the program started, Richard Bissell had estimated that the U-2 would be able to fly over the Soviet Union with impunity for only about two years. This period was already over, and the Soviets were working frantically to devise a means to stop U-2 overflights. From the very beginning, Soviet air defense units had not only tracked U-2s with radars, but had also made repeated efforts to shoot them down with antiaircraft weapons and interceptor aircraft. In 1956 such attempted interceptions had involved primarily MiG-15s and MiG-17s, which could barely reach 55,000 feet. The advent of MiG-19s and MiG-21s, which could climb even higher, provided a greater threat for U-2 pilots.

Realistic training for pilots learning to intercept the U-2 became possible after the Soviets developed a new high-altitude aircraft, the Mandrake, which was actually an improved version of the Yakovlev-25 all-weather interceptor. The Mandrake used a high-lift, low-drag wing design similar to that employed by the U-2, but its twin engines made it heavier. The Mandrake's operating altitude was 55,000 to 65,000 feet, and its maximum altitude was 69,000, far less than the 75,000 feet reached by the U-2. Like the U-2, the Mandrake's wings would not tolerate great stresses, so it could not be used as an attack aircraft at the high altitudes at which both planes operated. Between 1957 and 1959, Yakovlev built 15 to 20 of these aircraft in two versions: the Mandrake-R or YAK-25RM and the Mandrake-T, sometimes called the YAK-26. These high-altitude aircraft were used to overfly the Middle East, India, China, and Pakistan, as well as border regions of NATO nations in Europe during the late 1950s and early 1960s. It is not believed that Mandrakes ever attempted to overfly the continental United States.[103]

Beginning in late 1957, the Mandrake served as a practice target for pilots of high-performance Soviet MiG-19 and MiG-21 interceptors. The Soviet technique that most concerned U-2 pilots was the "snap up" or power dive and zoom climb. In this maneuver, ground-based radar operators would direct the interceptor aircraft along the same flight path as the U-2. When the MiG pilot achieved the same compass heading as the U-2 flying more than 10,000 feet above him, he would put his aircraft into a shallow dive to pick up

[103] "Yakovlev Yak-25RM Mandrake," *Jane's Defence Weekly*, vol. 3, no. 7, 16 February 1985.

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speed, apply full throttle to the engine, then pull back on the stick and zoom as high as he could. In this manner the Soviet pilot hoped to come up directly beneath the U-2 so he could use his guns and missiles against the shiny U-2 etched in silver against the dark blue-black of space. Using this maneuver, some MiGs were able to climb as high as the U-2 but seldom got very close. At this height the MiGs were completely out of control; their small, swept-back wings provided insufficient lift; and their control surfaces were too small to maintain aircraft stability. U-2 pilots often spotted MiGs that reached the apex of their zoom climbs and then fell away toward the earth. The US pilots' greatest fear was that one of the MiGs would actually collide with a U-2 during a zoom climb.[104]

U-2 pilots complained that they felt like ducks in a shooting gallery under these circumstances and suggested that the underside of the silvery aircraft be camouflaged in some manner. Kelly Johnson had originally believed the U-2 would fly so high that it would be invisible, thus eliminating the need to paint the aircraft and thereby avoiding the added weight and drag that paint produced. The paint penalty was calculated to be a foot of altitude for every pound of paint. A full coat of paint cost the U-2 250 feet of altitude, substantially less than the 1,500-foot penalty paid for the addition of dirty bird devices.

By late 1957, Johnson agreed that something had to be done. After a series of tests over Edwards AFB, Lockheed began coating the U-2s with a standard blue-black military specification paint on top and a lighter cloud-blue paint below. Subsequent tests over Nevada revealed that the U-2s were less conspicuous when painted all over with a matte-finish blue-black color, which helped them blend with the dark canopy of space.[105]

MORE POWERFUL ENGINES FOR THE U-2

Less conspicuous paints were not the only answer to the growing threat of Soviet interceptors. A more powerful engine would increase the U-2's maximum altitude, which was the surest way to protect the aircraft from all Soviet threats. During late 1958 and early 1959, Lockheed began refitting the Agency's 13 remaining U-2s—originally the Agency had taken delivery of 20 planes and the Air

[104] Information supplied by Jacob Kratt and James Cherbonneaux to Donald E. Welzenbach, May 1986.

[105] Lockheed contracts, OSA records (S).

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Soviet MiG-21 interceptor (top), Soviet MiG-19 interceptor (middle), Soviet MiG-19 photographed by a U-2, 13 October 1957 (bottom)

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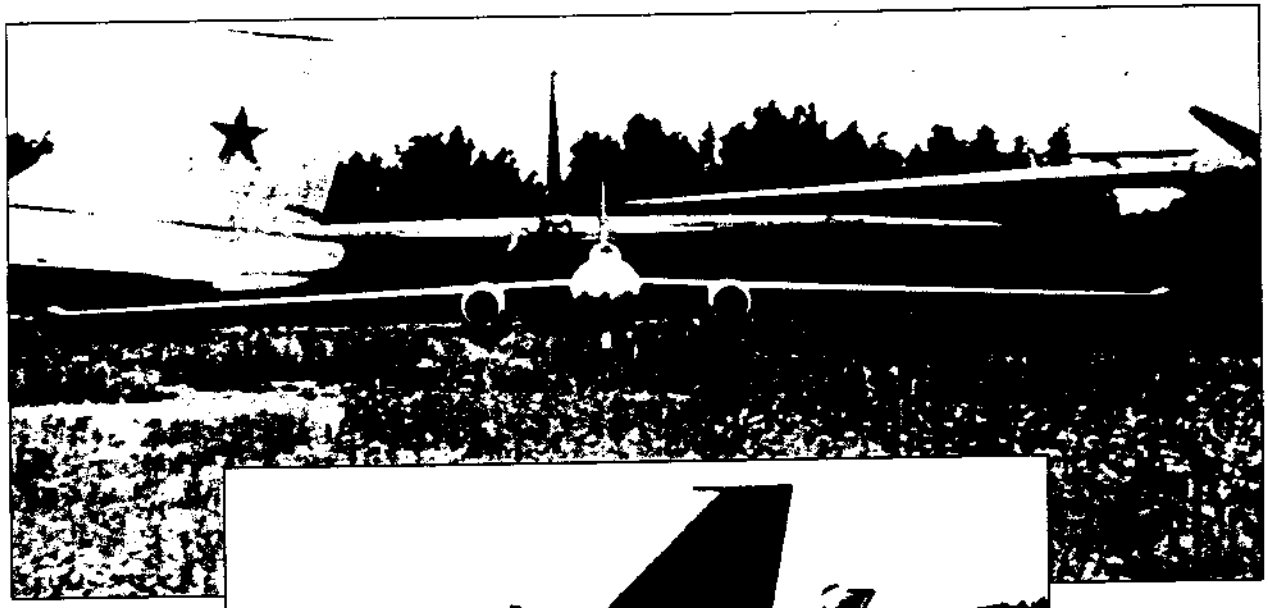

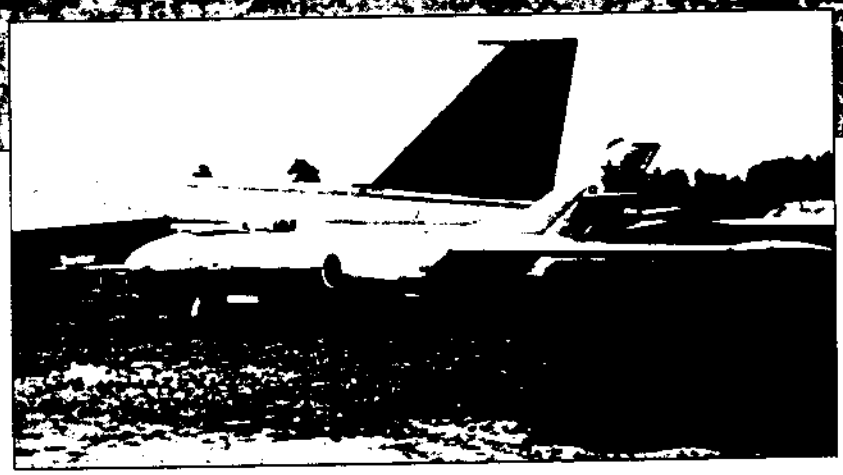

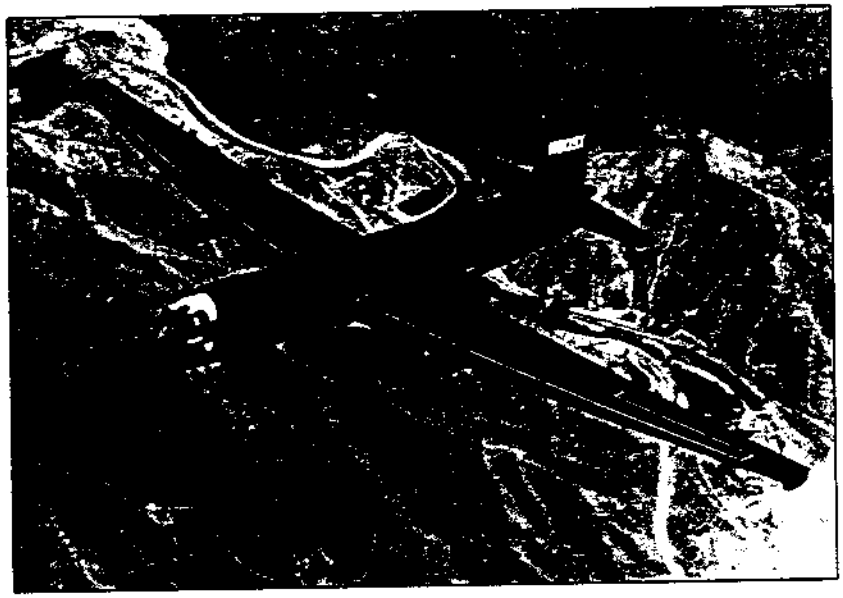

YAK-25RD Mandrake on display at the Gagarin Military Academy Museum (top and middle)
U-2 in the new black paint scheme (left)

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Force of 31—with the more powerful Pratt & Whitney J75-P13 jet engine. This new power plant generated 4,200 pounds more thrust while adding only 2,050 pounds more weight. With its greater power, the engine permitted the U-2 to reach operational altitude more quickly, thereby reducing the telltale contrails that the U-2 produced as it passed through the tropopause at 45,000 to 55,000 feet. With the new engine, U-2 passed through this portion of the atmosphere faster and did so before entering hostile airspace, thus reducing the chance of visual detection. The J75 power plant also made it possible for the U-2 to carry a larger payload and gain another 2,500 feet in altitude, permitting it to cruise at 74,600 feet. The new engines were in very short supply because of the needs of the Air Force's F-105 construction program, but Colonel Geary used his Air Force contacts to obtain an initial supply of 12 engines. The Air Force never equipped its original U-2s with the J75 engines.[106]

Detachment C in Japan received the first of these re-engined aircraft, known as U-2Cs, in July 1959, and two more arrived in Turkey for Detachment B in August. All Agency U-2s had the new engines by the summer of 1962, but by then only seven CIA U-2s remained in service.

INTERVENTION IN LEBANON, 1958

Although the U-2 was used less and less for its original role of gathering strategic intelligence on the Soviet Bloc, it had acquired the new mission of providing US decisionmakers with up-to-date information on crisis situations all around the world. The first use of the U-2 to gather tactical intelligence occurred during the 1956 Suez Crisis. Afterward, U-2s from the Turkish-based Detachment B conducted periodic overflights to monitor the situation in the troubled Middle East, and they became especially active during the summer of 1958.

On 15 July 1958, President Eisenhower ordered US troops to land in Lebanon in response to a request for assistance by Lebanese President Camille Chamoun. Three months earlier, Eisenhower had turned down a similar request because the rioting that had led President Chamoun to ask for American aid had died down before intervention became necessary. In July, however, President Eisenhower saw the overall situation in the Middle East as much more threatening. On 14 July forces aligned toward Egyptian President Gamal

[106] *OSA History*, chap. 16, p. 8 (TS Codeword); Geary interview (S).

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Abdel Nasser overthrew the Government of Iraq and assassinated the royal family. Long concerned by the growing influence of Nasser, who had close ties to the Soviet Union and now headed both Egypt and Syria in the new United Arab Republic, President Eisenhower decided that US intervention was necessary to stabilize the situation in Lebanon and to show Nasser that the United States was willing to use force to defend its vital interests in the region. Before intervening in Lebanon, the United States consulted with the United Kingdom, which also decided to intervene in the Middle East by sending paratroopers to assist the Government of Jordan on 17 July.

With US Marines and Army troops deployed in a potentially hostile situation in Lebanon, US military commanders and intelligence community analysts immediately requested tactical reconnaissance flights to look for threats to the US units and evidence that other Middle Eastern countries or the Soviet Union might be preparing to intervene. The U-2s of Detachment B in Turkey carried out these missions.

Because tactical reconnaissance required an immediate readout of the films taken, the Photographic Intelligence Center (the new name for the Photo-Intelligence Division from August 1958) quickly reopened the film-developing unit at Adana and staffed it with lab technicians and photointerpreters. Throughout the summer of 1958, Detachment B U-2s brought back photography of military camps, airfields, and ports of those Mediterranean countries receiving Soviet arms. The detachment also kept a close watch on Egyptian-based Soviet submarines, which posed a threat to US 6th Fleet ships in the Mediterranean. In addition, U-2s flew occasional electronic intelligence collection missions along the Soviet border and over the Black Sea without entering Soviet airspace. In late August, as the crisis in the Middle East eased, the United States began withdrawing its 14,300 troops. It was not until 25 October, however, that the last American soldier left Lebanon.[107]

BRITISH PARTICIPATION IN THE U-2 PROJECT

Shortly after the withdrawal of US troops from Lebanon, a new group of pilots joined the U-2 project. In November 1958, four RAF officers arrived at Detachment B at Adana, thus beginning the United Kingdom's participation in U-2 operations. The British had first

[107] Ambrose, *Eisenhower: The President*, pp. 462-473.

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become involved in the U-2 project in September 1956, when the United States supplied them with photography from U-2 missions. To handle U-2 material, the British created a new control system, which later merged with the US control system. By 1957 cooperation between the United Kingdom and the United States had expanded to include frequent consultation between the requirements and photo-interpretation organizations of both countries. James Reber and Arthur Lundahl made periodic trips to the United Kingdom for discussions with Alan Crick's UK Requirements Committee (generally known as the Crick Committee, later as the Joint Priorities Committee), the Joint Intelligence Committee, the Joint Air Reconnaissance Intelligence Center, and MI-6.[108]

The idea of using British pilots in the U-2 program first arose in the spring of 1957, when Richard Bissell—upset that his aircraft had not been allowed to fly over the Soviet Union since the December 1956 standdown—was searching for ways to reduce the political risks of overflights and thus obtain more frequent authorization for missions over the Soviet Union. One of his proposals was to use non-US pilots—possibly British—to increase the possibility of plausible denial in the event of a loss. At a meeting with key CIA, Defense Department, and State Department officials on 6 May 1957, President Eisenhower approved the concept of British participation in the U-2 project.[109]

During the next six months, Dulles and Bissell met with Sir Dick White, head of MI-6, and Air Vice Marshal William M. L. MacDonald, Assistant Chief of the Air Staff for Intelligence, on several occasions to discuss the proposal in general terms. At first the CIA did not push the proposal too hard because at the same meeting in which he approved British participation, President Eisenhower had consented to the resumption of U-2 missions over the Soviet Union, resulting in 10 overflights during the summer and early fall of 1957. But when flights ceased in October, the thought of British participation became more attractive. By early 1958, Bissell was pressing the British to begin training pilots in the U-2 even though no final political decision on their participation had been made. On 7 February 1958, Bissell instructed the [redacted] to ask Air Vice Marshal MacDonald if the RAF was prepared to

[108] See, for example, the trip reports of the Ad Hoc Requirements Committee in the COMIREX records, IC Staff (TS Codeword).

[109] Andrew J. Goodpaster, Memorandum of Conference with the President, 6 May 1957 (TS); idem, "Record of Action—Meeting of May 6, 1957," WHOSS, Alpha, DDEL (TS).

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select a group of pilots for the U-2 project. MacDonald agreed to Bissell's proposal and began recruiting RAF pilots to fly the U-2.[110]

In June 1958, representatives from the British Air Ministry came to project headquarters for an orientation and then sat down with CIA officials to work out an agreement on plans and procedures for the joint project. The two sides decided to establish a small RAF contingent that would be integrated into and supported by Detachment B at Adana. The British missions would be operationally controlled by CIA project headquarters. Soon afterward four British pilots began training in Texas. One of these pilots, Squadron Leader Christopher H. Walker, died in a training accident in July 1958. Because of the addition of RAF officers to the program, Project AQUATONE received a new codename, CHALICE. By the end of November 1958, three RAF pilots and a flight surgeon joined Detachment B at Adana with Turkish approval.

Formal approval by the political leaders of the United Kingdom and the United States had come several months earlier. On 27 August 1958, Prime Minister Harold Macmillan gave his approval to British participation in the project as long as he had the right to approve or disapprove all operational flights by RAF pilots. On the same day, President Eisenhower gave his approval in principle for the joint project.[111]

Both sides stood to gain from the joint nature of the U-2 project. For Richard Bissell, British participation was a means to gain an additional source of authorization for overflights of the Soviet Union. Six months earlier, Bissell had cabled to [redacted] that he wanted British participation because it would "facilitate operations by them at times or under circumstances beyond the scope of authority accorded by US political authorities."[112]

President Eisenhower viewed British participation as a way to confuse the Soviets as to the sponsorship of particular overflights and also to spread the risk in the event of a loss. Furthermore, he was used

[110] *OSA History*, chap. 13, pp. 1-2 (TS Codeword).

[111] Ibid., pp. 5-6 (TS Codeword).

[112] Ibid., p. 1 (TS Codeword).

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to working closely with the British from his wartime experience and believed that their involvement in the U-2 program was a natural aspect of their alliance with the United States.[113]

On the British side, participation in U-2 flights was a logical extension of the close cooperation that already existed between the two countries on the U-2 program. The direct involvement of the British also enabled them to conduct additional flights in areas such as the Middle East that were of more intelligence interest to the United Kingdom than to the United States. The British also may have reasoned that direct participation in the program was the best way to ensure that they had a right to share in the U-2's take. Otherwise, the United States might decide at some point to cut off the flow of U-2 photography, as it had done during the 1956 Suez Crisis.

By November 1958, British pilots had joined Detachment B, and arrangements had been made for the title to the aircraft they would be using to be transferred on paper to the British Government. In a final exchange of letters between President Eisenhower and Prime Minister Macmillan in December, the President summarized the lines of authority for the joint program: "British missions are carried out on your authority and are your responsibility just as our activities are authorized and controlled here in accordance with the procedures I have established. In this sense, it could be said that we are carrying out two complementary programs rather than a joint one." [114]

Richard Bissell had achieved his goal of gaining another source of approval for overflights of the Soviet Union. In late 1959 and early 1960, this arrangement proved its value when British pilots conducted two highly successful missions over Soviet missile testing facilities at a time when President Eisenhower had not authorized an overflight for almost six months (see chapter 4). Most flights by the RAF pilots in Detachment B, however, took place in the Middle East, where the United Kingdom carried out 27 missions during the two years its pilots took part in overflights.

In Britain, the cover story for the RAF participation in the U-2 program was that British fliers were being trained to fly high-altitude weather-sampling missions for the RAF weather service. To support this cover, a U-2 was ferried to Watton RAF Base, England, in early

[113] Goodpaster interview (S).

[114] *OSA History*, chap. 13, pp. 10-11 (TS Codeword).

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May 1959, and used to fly weather missions on 7 and 8 May before returning to Adana. Two more weather-sampling flights took place over England on 5 and 6 October 1959.

THE U-2 PROJECT AT THE BEGINNING OF 1959

Early 1959 saw Detachment B aircraft active primarily over Middle Eastern countries, with occasional overflights of Albania to check for reported Soviet missile installations. Detachment C mainly collected high-altitude weather data, although it also flew two missions over Tibet and Southwest China (see chapter 5). The overflight program against the Soviet Union seemed to be at a standstill, but pressures within the government were building to resume deep-penetration flights to resolve the growing "missile-gap" controversy.

Organizationally, the U-2 project underwent a major change after Richard Bissell became CIA's Deputy Director for Plans on 1 January 1959. At first glance, Bissell's selection seems unusual because he had spent most of his Agency career heading the U-2 project, but his first major assignment had been coordinating support for the operation that overthrew the leftist Government of Guatemala in 1954. Furthermore, Bissell's U-2 project was the major covert collector of intelligence against the CIA's primary target, the Soviet Union.

During his years as head of the Development Projects Staff (DPS), Bissell had opposed proposals to bring all Agency air activities together into a single office, fearing that he would lose control of the U-2 project. Once he became Deputy Director for Plans, his viewpoint changed; he was now in a position to consolidate all air activities under his own control. On 16 February 1959, the DPS became the Development Projects Division (DPD) of the Directorate of Plans (at the time known as the Deputy Directorate/Plans or DDP). Despite the tremendous increase in the scope of his duties after assuming control of the DDP, Bissell retained personal control of his previous Development Projects Staff projects: the U-2 program, another project to develop a photosatellite, and a third project to design a follow-on aircraft for the U-2 (OXCART). Although the amalgamation of all Agency air operations and the transfer of the U-2 project to the DDP made sense, the question remained as to whether one individual could effectively control all these different activities.

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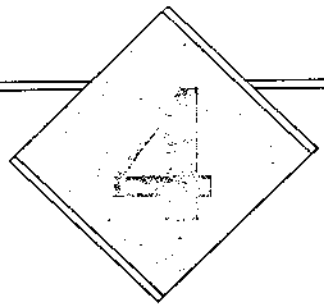

The Final Overflights of the Soviet Union, 1959-1960

THE U-2 AND THE "MISSILE-GAP" DEBATE

Despite President Eisenhower's reluctance to send U-2s over the Soviet Bloc, he once again authorized overflights in the summer of 1959, after a pause of more than a year. The overriding factor in his decision was the growing "missile-gap" controversy, which had its roots in a series of dramatic Soviet announcements during the second half of 1957. The first announcement revealed the successful test of an intercontinental ballistic missile in August. Then in October, the Soviets announced the successful orbiting of the world's first artificial earth satellite, Sputnik. One month later the Soviets orbited a second satellite containing a dog and a television camera. To many Americans, including some influential members of Congress, the Soviet Union's space successes seemed to indicate that its missile program was ahead of that of the United States. By the spring of 1958, after the United States had successfully launched several satellites, fears of a space technology gap between the two superpowers had eased. By the end of the year, however, new concerns arose that the Soviet Union was producing a missile arsenal that would be much larger than that of the United States. This was the famous missile gap that received widespread publicity beginning in early 1959.[1]

The missile-gap controversy was fueled by Soviet boasts about the success of their missile program. On 4 December 1958, a Soviet delegate to the Geneva Conference on Surprise Attack stated: "Soviet ICBMs are at present in mass production." Five days later, Soviet

[1] For an overview of the controversy, see Roy E. Licklider, "The Missile Gap Controversy," *Political Science Quarterly* 85 (1970):600-615.

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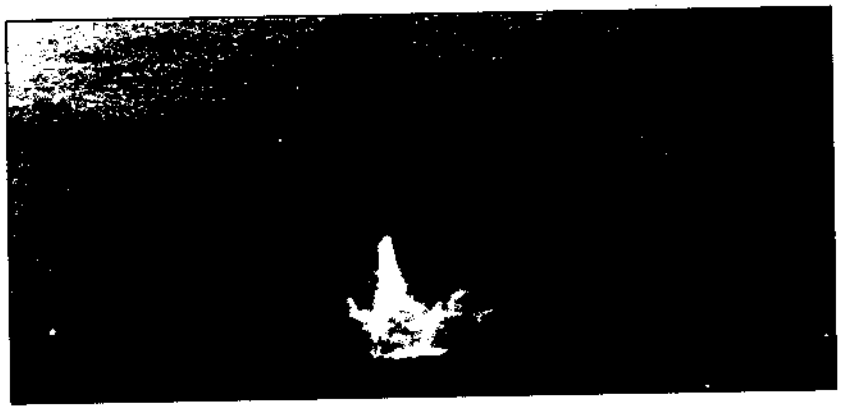

Launch of Sputnik, 4 October 1957

Premier Nikita Khrushchev asserted that the Soviet Union had an ICBM capable of carrying a 5-megaton nuclear warhead 8,000 miles. These statements seemed all the more ominous because, during this same month of December, the first attempt to launch the new US Titan ICBM failed. In reality, all of the Soviet statements were sheer propaganda; they had encountered difficulties with the SS-6 ICBM, and the program was at a standstill. As a result, there were no ICBM launches from Tyuratam between 29 May 1958 and 17 February 1959, a space of almost nine months.[2]

To conceal the difficulties in their missile program, Soviet leaders continued to praise its alleged successes. At the beginning of February 1959, Khrushchev opened the Soviet Communist Party Congress in Moscow by claiming that "serial production of intercontinental ballistic rockets has been organized." Several months later Soviet Defense Minister Rodion Malinovsky stated that these missiles were capable of hitting "precisely any point" and added, "Our army is equipped with a whole series of intercontinental, continental and other rockets of long, medium and short range." When asked at a press conference to comment on Malinovsky's statement, President Eisenhower replied, "They also said that they invented the flying machine and the automobile and the telephone and other things.... Why should you be so respectful of this statement this morning, if you are not so respectful of the other three?"[3] Nevertheless, the Soviet statements were taken at face value by most Americans, including many members of the intelligence community.

[2] Lawrence Freedman, *US Intelligence and the Soviet Strategic Threat*, 2nd. ed. (Princeton: Princeton University Press, 1986), pp. 69-70.

[3] Ford Eastman, "Defense Officials Concede Missile Lag," *Aviation Week*, 9 February 1959, pp. 26-27.

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As concern about Soviet missile progress increased, even the interruption in Soviet ICBM testing was seen as evidence of a Soviet advantage. Although the CIA correctly reasoned that the Soviets were experiencing difficulties in developing an operational ICBM, the Air Force assumed that the Soviets had halted testing because the missile was ready for deployment.[4]

The controversy intensified early in February 1959, when Secretary of Defense Neil H. McElroy testified before the Senate Preparedness Investigating Committee on Soviet missile capabilities for the next few years. McElroy told the Senators that in the early 1960s the Soviet Union might have a 3 to 1 advantage over the United States in operational ICBMs. McElroy stressed that the gap would be temporary and that at its end the United States would enjoy a technological advantage because it was concentrating on developing the more advanced solid-fueled missiles rather than increasing the number of obsolescent liquid-fueled missiles, but it was his mention of a 3 to 1 missile gap that made the headlines. Administration critics such as Senator Stuart Symington quickly charged that the actual gap would eventually be even larger.[5]

Faced with rising public and Congressional concern about the missile gap, Defense Department officials pressed President Eisenhower to authorize renewed overflights to gather up-to-date information about the status of the Soviet missile program. Following a National Security Council meeting on 12 February, Chairman of the Joint Chiefs of Staff Twining, Secretary of Defense McElroy, and Deputy Secretary of Defense Quarles stayed behind to talk to the President about overflights. They hoped that the need to refute criticism of the missile gap from Symington and other Democratic Senators would persuade the President to loosen his policy on the use of the U-2. McElroy pointed out that no matter how often Allen Dulles briefed these critics, they would not believe his reassurances about the absence of a missile gap without positive proof such as photographs. More overflights would be needed to obtain the kinds of photographs required.

The President was not swayed by these arguments. Noting that the reconnaissance satellite project was "coming along nicely," he stated that U-2 flights should be "held to a minimum pending the

[4] Freedman, *US Intelligence*, p. 70.

[5] "What About the Missile Gap?" *Time*, 9 February 1959, pp. 11-13.

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availability of this new equipment." Quarles objected that the satellites would not be ready for up to two years, but the President replied that this did not matter because the Soviets would not be able to build a first-strike force of ICBMs in the near future. President Eisenhower finally conceded that "one or two flights might possibly be permissible," but he ruled out "an extensive program." In light of the "crisis which is impending over Berlin" he did not want to be provocative.[6]

As the missile-gap controversy raged, President Eisenhower stuck to his refusal to permit overflights of the Soviet Union, although the Soviet Union's resumption of ICBM testing almost persuaded him to change his mind. On 10 April 1959, the President tentatively approved several overflights, but, on the following day, he called in McElroy and Bissell to inform them that he was withdrawing his authorization, explaining that "there seems no hope for the future unless we can make some progress in negotiation." Eisenhower remained worried by "the terrible propaganda impact that would be occasioned if a reconnaissance plane were to fail." Although he agreed that new information was necessary, especially in light of the "distortions several senators are making of our military position relative to the Soviets," Eisenhower believed that such information would not be worth "the political costs."[7]

The President remained willing to consider flights that did not overfly Soviet territory, and in June he authorized two electronic intelligence collection missions along the Soviet-Iranian border. The two missions of Operation HOT SHOP took place on 9 and 18 June 1959. The first of these missions was noteworthy because it involved both an Agency U-2 and an Air Force RB-57D Canberra. The two aircraft cruised along the Soviet border and made the first telemetry intercept ever from a Soviet ICBM during first-stage flight, 80 seconds after launch.[8]

Efforts to persuade the President to authorize penetration missions continued. On 7 July 1959, Allen Dulles and Richard Bissell met with Eisenhower to discuss the possibility of a penetration flight

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[6] Andrew J. Goodpaster, Memorandum for the Record, 12 February 1959, WHOSS Alpha, DDEL (TS); Ambrose, *Eisenhower: The President*, pp. 513-514; Beschloss, *Mayday*, p. 173.

[7] Quoted in Ambrose, *Eisenhower: The President*, pp. 514-515; Beschloss, *Mayday*, p. 176.

[8] Mission folders 4120 (9 June 1959) and 4121 (18 June 1959), OSA records, job 67-B-972, boxes 10 and 11 (TS Codeword).

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to gather intelligence on the Soviet missile program. Discussions continued the following day with the addition of Secretary of State Herter, who stated in support of the CIA proposal that "the intelligence objective outweighs the danger of getting trapped." The strong backing of the proposed overflight by both CIA and the State Department finally convinced President Eisenhower to approve the mission.[9]

On 9 July 1959, more than 16 months after the previous overflight of the Soviet Union, a U-2 equipped with a B camera left Peshawar, Pakistan, flew over the Urals, and then crossed the missile test range at Tyuratam. This mission, known as Operation TOUCHDOWN, produced excellent results. Its photography revealed that the Soviets were expanding the launch facilities at Tyuratam. While this overflight was under way, another U-2 flew a diversionary mission along the Soviet-Iranian border.[10]

Despite its success, this overflight remained an isolated incident. President Eisenhower was unwilling to authorize additional overflights of the Soviet Union, in part because he did not wish to increase tension before Premier Khrushchev's visit to the United States scheduled for 15-27 September 1959. Nevertheless, the President still wanted as much intelligence on the Soviet missile program as possible. Because the Soviets were conducting an extensive program of missile tests in mid-1959, Eisenhower authorized a steady stream of the less provocative electronic intelligence (ELINT)-gathering missions (14 in all) along the Soviet border during the remainder of the year.[11]

Within the United States, concern about the Soviet missile program continued to grow. On 12 September 1959 the Soviets scored another space success when their Luna 2 rocket reached the moon, and Khrushchev stressed this success when he arrived in the United States three days later. He also boasted of Soviet missile progress in private conversations with President Eisenhower, while making no

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[9] Andrew J. Goodpaster, Memorandum for the Record, 7 July 1959 (TS); idem, Memorandum of Conference with the President, 8 July 1959, WHOSS, Alpha, DDEL (TS).

[10] Mission folder 4125 (9 July 1959), OSA records (TS Codeword).

[11] *OSA History*, chap. 19, annex 120, pp. 12-14 (TS Codeword).

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mention of overflights by the United States. After the trip was over, Khrushchev and other leading Soviet officials continued to make exaggerated claims about the extent of their missile force, adding to the confusion and concern within the US intelligence community. Thus in November 1959, Soviet Premier Khrushchev told a conference of journalists, "Now we have such a stock of rockets, such an amount of atomic and hydrogen weapons, that if they attack us, we could wipe our potential enemies off the face of the earth." He then added that "in one year, 250 rockets with hydrogen warheads came off the assembly line in the factory we visited." [12] Because the Soviet Union had been launching at least one missile per week since early fall, US policymakers placed great weight on his remarks.

Despite the intelligence community's intense interest in the Soviet Union's nuclear and missile programs, President Eisenhower did not authorize any more overflights of the Soviet Union during the remainder of the year. On the other hand, he raised no objections to (and probably welcomed) the first British overflight of the Soviet Union in December 1959. For almost a year, the RAF pilots of Detachment B had been ready to fly over the Soviet Union, but Prime Minister Harold Macmillan had not previously authorized any such missions because of his own visit to the Soviet Union, several international meetings, and other state visits. As a result, British U-2 missions had been confined to the Middle East. Now that the Prime Minister's approval had been obtained, Detachment B conducted Operation HIGH WIRE with an RAF pilot. Squadron leader Robert Robinson left Peshawar on 6 December and overflew Kuybyshev, Saratov Engels Airfield, and the Kapustin Yar Missile Test Range before landing at Adana. The mission photography was excellent, but it did not provide intelligence on Soviet ICBMs, which were tested at Tyuratam, not Kapustin Yar.[13]

Because there had been so few overflights in 1958 and 1959, many questions about the Soviet missile program remained unanswered. Within the intelligence community there was still considerable disagreement over the size of the Soviet missile force. Thus, during testimony before the US Senate in January 1960, DCI Allen Dulles, Secretary of Defense Thomas Gates, and Air Force Chief of

[12] William E. Burrows, *Deep Black: Space Espionage and National Security* (New York: Random House, 1987), p. 101.

[13] *OSA History*, chap. 11, p. 33 (TS Codeword); Mission folder 8005 (6 December 1959), OSA records, job 67-B-972, box 13 (TS Codeword).

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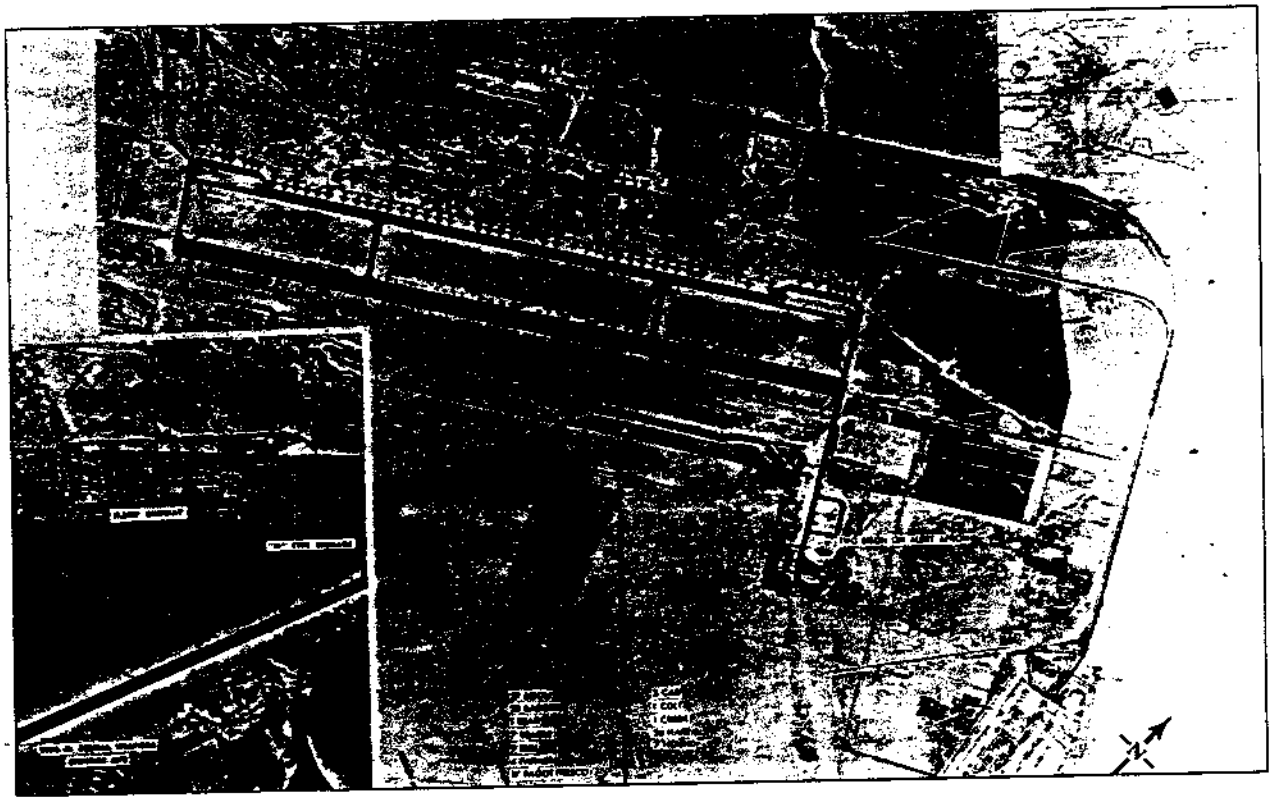

Saratov Engels Airfield, 6 December 1959

Staff Nathan Twining each gave different figures for the number of deployed Soviet missiles. Although the CIA figures were based on evidence gained from overflights, Dulles could not reveal this fact to the Senate and, therefore, faced very sharp questioning.[14]

As a result of these Senate hearings, Dulles was determined to obtain permission for more overflights in order to settle the missile-gap question once and for all and end the debate within the intelligence community. To accomplish this, Dulles proposed photographing the most likely areas for the deployment of Soviet missiles. At this time there was still no evidence of SS-6 ICBM deployment outside the Tyuratam missile test range. Because the SS-6 was extremely large and liquid fueled, analysts believed these missiles could only be deployed near railroads. Existing U-2 photography showed railroad tracks going right to the launching pad at the test site. Dulles, therefore argued that SS-6 installations could easily be located by flying along railroad lines. Dulles was supported by members of the

[14] Licklider, "Missile Gap Controversy," pp. 608-609.

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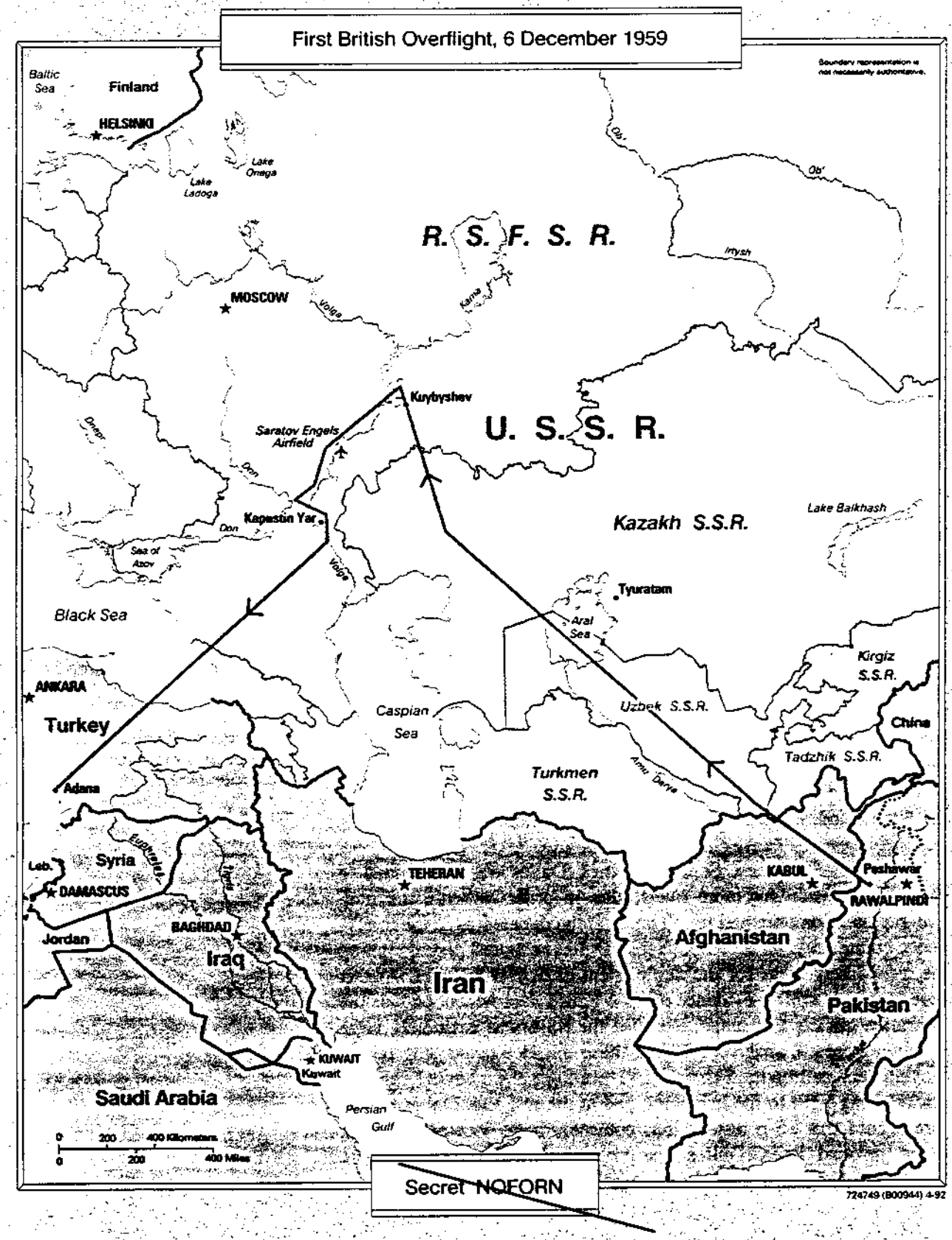

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President's Board of Consultants on Foreign Intelligence Activities. At a meeting of the board on 2 February 1960, Gen. James Doolittle urged President Eisenhower to use overflights of the Soviet Union to the maximum degree possible. The President's response, as summarized in General Goodpaster's notes of the meeting, showed that the upcoming summit meeting was already an important factor in his attitude toward U-2 flights: "The President said that he has one tremendous asset in a summit meeting, as regards effect in the free world. That is his reputation for honesty. If one of these aircraft were lost when we are engaged in apparently sincere deliberations, it could be put on display in Moscow and ruin the President's effectiveness." [15]

A few days later, another U-2 took to the sky on a mission over the Soviet Union. As in December, the pilot was British, and the mission had been ordered by Prime Minister Macmillan. On 5 February 1960, a Detachment B U-2C with squadron leader John MacArthur at the controls left Peshawar, Pakistan, to conduct Operation KNIFE EDGE. The plane overflew the Tyuratam Missile Test Range, headed northwest to Kazan', and then turned south, photographing long stretches of the Soviet rail network. The excellent photography from this mission did not reveal a single missile site, but analysts did discover a new Soviet bomber, dubbed the BACKFIN, at Kazan'.[16]

Despite the outcome of this mission, the missile-gap debate continued. The Air Force still insisted that the Soviets had deployed as many as 100 missiles. The Army, Navy, and CIA, however, doubted that any had been deployed, because none could be found. Additional U-2 photography was needed to settle the debate. In mid-February, President Eisenhower reviewed plans for four additional U-2 missions. The success of the two British missions, along with the absence of Soviet protests, made the President more willing to consider a resumption of US overflights, and he agreed to allow one mission to be flown during the month of March. The President's continued restrictions upon the use of the U-2 disturbed DCI Dulles, who sent a memorandum to the National Security Council on 1 March 1960 asserting that the cardinal objective of obtaining information on Soviet missile deployment could be better achieved if the U-2 were given freer rein.[17]

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[15] Ambrose, *Eisenhower: The President*, p. 568; Beschloss, *Mayday*, p. 233.

[16] Mission folder 8009 (5 February 1960), OSA records, job 67-B-972, box 13 (TS Codeword); *OSA Chronology*, p. 25 (TS Codeword).

[17] *OSA Chronology*, p. 25 (TS Codeword); Philip K. Edwards, "The President's Board: 1956-60," *Studies in Intelligence* 13 (Summer 1969):118 (S).

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In authorizing another overflight of the Soviet Union, President Eisenhower directed that it be conducted before 30 March. Because of complications in getting permission from Pakistan to use the airfield at Peshawar, however, the mission could not be staged in March, and the President agreed to extend his deadline until 10 April 1960. One day before the expiration of this deadline, a U-2 equipped with a B-camera took off from Peshawar on the last successful overflight of the Soviet Union, Operation SQUARE DEAL. As had been the case during the previous two overflights, a second U-2 flew a diversionary mission along the Soviet-Iranian border. After leaving Peshawar, mission 4155 headed first for Saryshagan, where it obtained the first pictures of two new Soviet radars, the HEN HOUSE and HEN ROOST installations. The U-2 then flew to the nuclear testing site at Semipalatinsk. Returning to the Saryshagan area, it crisscrossed the railroad network there and then proceeded to Tyuratam, where it photographed a new two-pad, road-served launch area that suggested a new Soviet missile was in the offing.[18]

In his memoirs Nikita Khrushchev remarked that this U-2 should have been shot down, "but our antiaircraft batteries were caught napping and didn't open fire soon enough." Khrushchev explained that Soviet missile designers had developed a high-altitude antiaircraft missile and batteries of this missile had been deployed near known targets of the U-2.[19]

The CIA already had strong indications of improvements in the Soviet air defense system, and early in 1960 the Development Projects Division had asked Air Force experts at the Air Technical Intelligence Center (ATIC) for a frank assessment of Soviet capabilities against the U-2. On 14 March 1960, Col. William Burke, acting chief of the DPD, relayed the ATIC assessment to Richard Bissell:

> *The greatest threat to the U-2 is the Soviet SAM. Although the ATIC analysis concedes a remote possibility that the SAM may be less effective than estimated, their present evaluation is that the SAM (Guideline) has a high probability of successful intercept at 70,000 feet providing that detection is made in sufficient time to alert the site.*[20]

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[18] Mission folder 4155, 9 April 1960, OSA records, job 67-B-328, box 6 (TS Codeword).

[19] Nikita S. Khrushchev, *Khrushchev Remembers: The Last Testament* (Boston: Little, Brown, & Co., 1974), pp. 443-444.

[20] Memorandum for Richard M. Bissell, Deputy Director (Plans), from Col. William Burke, Acting Chief, DPD, "Evaluation of Proposed CHALICE Operations," 14 March 1960, IC Staff, COMIREX records, job 33-T-123A, box 10, "CHALICE (General)" (TS Codeword).

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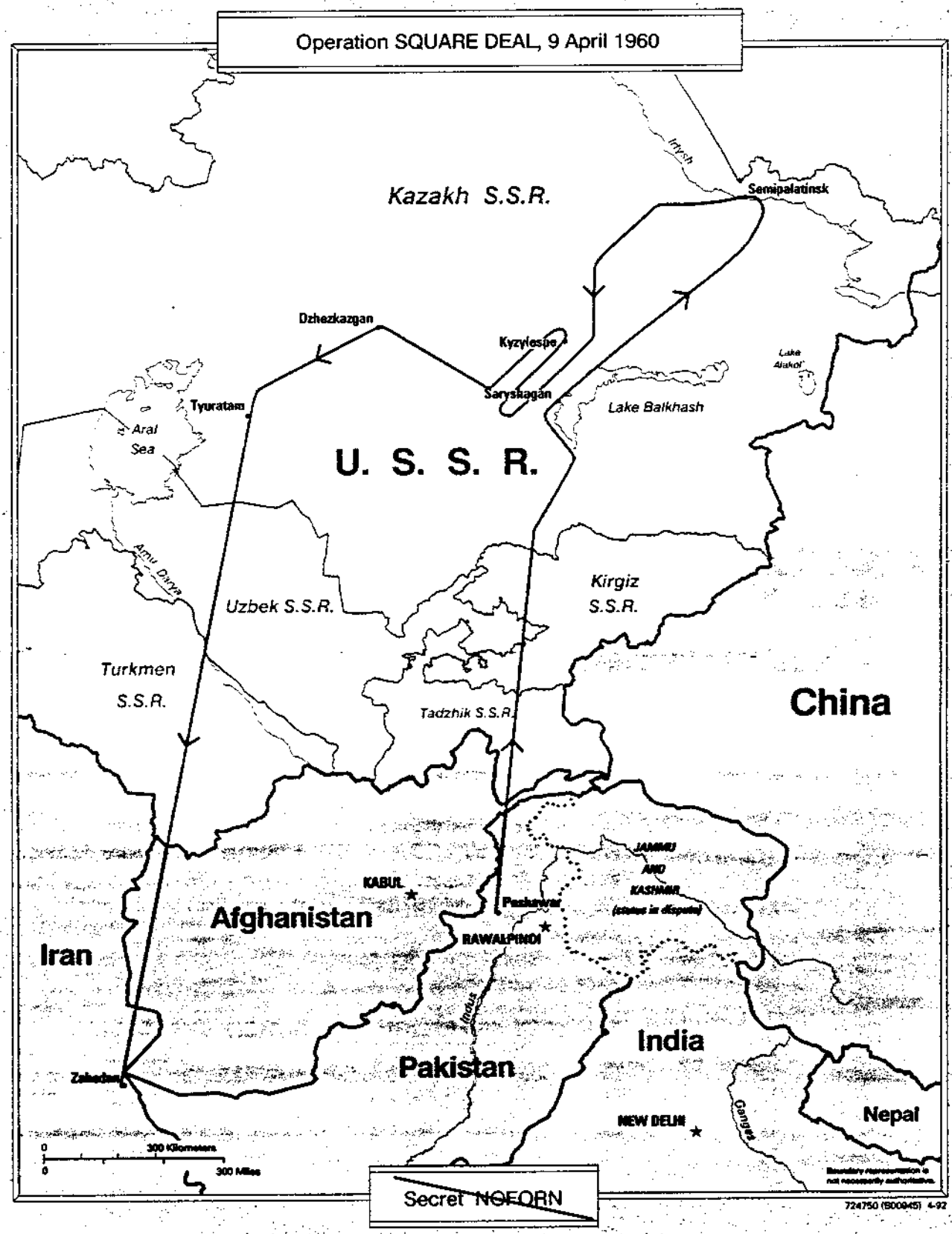

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One of the reasons why Operation SQUARE DEAL had been selected for the 9 April flight was that mission planners believed that penetration from the Pakistan/Afghanistan area offered the greatest chance of escaping detection by the Soviet air defense system. Colonel Burke's 14 March letter recommending SQUARE DEAL as the preferred route for the next overflight had stated, "There is a reasonable chance of completing this operation without detection." Escaping detection had become important because, if the Soviet SAMs received sufficient advanced warning, they posed a major threat to the U-2.

CIA hopes that flights from Pakistan or Afghanistan might go undetected proved false. On the 9 April overflight, the U-2's ELINT-collection unit (System VI) indicated Soviet tracking at a very early stage of the mission. Although the Soviets failed to intercept the U-2, their success at tracking it should have served as a warning against future overflights from Pakistan (or anywhere else, for that matter). On 26 April 1960, Colonel Burke informed Richard Bissell that "experience gained as a result of Operation SQUARE DEAL indicates that penetration without detection from the Pakistan/Afghanistan area may not be as easy in the future as heretofor."[21] Unfortunately, neither Colonel Burke nor Richard Bissell took the logical step of recommending the cessation of overflights now that the risks had increased substantially. The lure of the prospective intelligence gain from each mission was too strong, and the Soviets' lack of success at interception to date had probably made the project staff overconfident. Furthermore, both DCI Allen Dulles and the President's Board of Consultants on Foreign Intelligence Activities were pressing for more photos of the Soviet Union in order to settle the missile-gap debate raging in the intelligence community and Congress.

THE LAST OVERFLIGHT: OPERATION GRAND SLAM

Even before the 9 April overflight took place, President Eisenhower had consented on 28 March to an additional overflight during the month of April. His willingness to allow yet another overflight was

[21] Memorandum for Richard M. Bissell, Deputy Director (Plans), from Colonel Burke, Acting Chief, DPD, "Operational Priority of Proposed CHALICE Missions," 26 April 1960, IC Staff, COMIREX records, job 33-T-123A, box 10, "CHALICE (General)" (TS Codeword).

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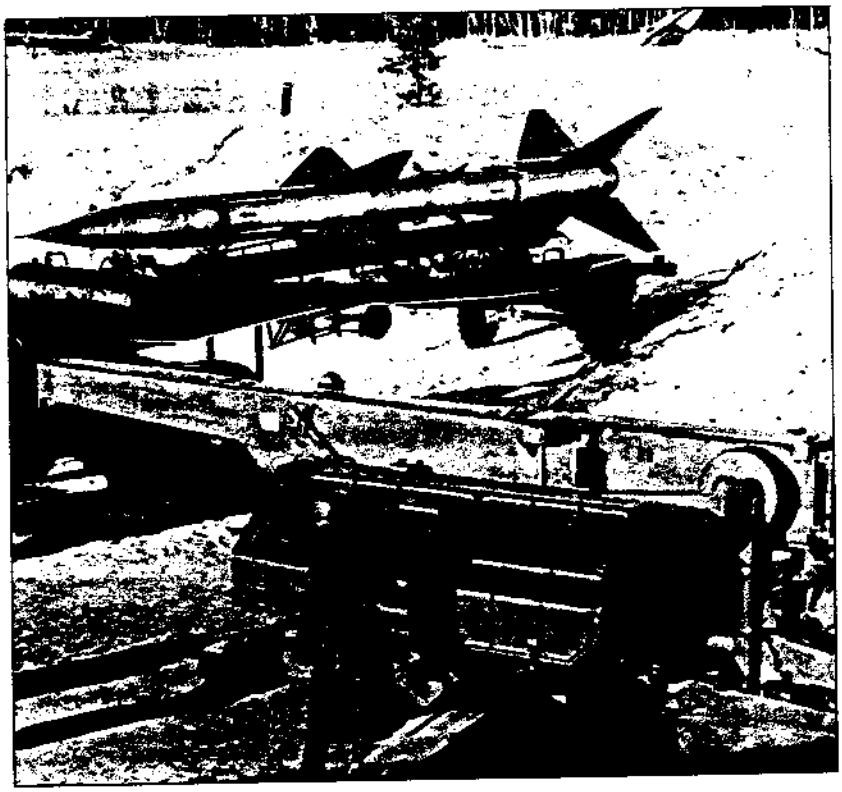

SA-2 surface-to-air missile

strengthened when the Soviet Union did not protest the 9 April mission. As Presidential science adviser George Kistiakowsky later remarked about the lack of protest, "This was virtually inviting us to repeat the sortie."[22]

Although President Eisenhower had authorized another overflight for April, he left the designation of its targets up to the experts at the CIA. Of the three missions that remained under consideration, one—Operation SUN SPOT—would overfly southern targets, Tyuratam and Vladimirovka, while the other two would cover railroad networks in the north-central portion of the Soviet Union. The intelligence community had been interested in this area ever since late 1959, when there were indications that the Soviets were building an SS-6 launch facility there. This was the first indication that SS-6s might be located anywhere other than Tyuratam testing facility, where the missiles were launched from a general purpose launching pad. The intelligence community was anxious to obtain photography of a

[22] George B. Kistiakowsky, *A Scientist at the White House* (Cambridge: Harvard University Press, 1976), p. 328.

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deployed SS-6 site because it could provide exemplars for photointerpreters to use in searching subsequent overhead photography for similar installations.[23]

The two proposed overflights that would cover the northern railroad lines received the strongest consideration. Both plans contained new features. Operation TIME STEP called for a U-2 to take off from the USAF base at Thule, Greenland, which would be the first overflight staged from this base. The aircraft would then fly over Novaya Zemlya on its way to cover the railroad lines from the Polyarnyy Ural Mountains to Kotlas. The return flight would be over Murmansk with the landing to take place at either Bodo or Andoya on Norway's northeast coast. The other proposed overflight, Operation GRAND SLAM, was the first U-2 mission planned to transit the Soviet Union; all previous missions had penetrated not more than halfway and then left in the general direction from which they came. GRAND SLAM proposed to fly across the Soviet Union from south to north, departing from Peshawar, Pakistan, and landing at Bodo, Norway. The mission would overfly Tyuratam, Sverdlovsk, Kirov, Kotlas, Severodvinsk, and Murmansk.

The two preferred missions both required the use of the airfield at Bodo, which had been authorized by senior Norwegian intelligence and military officers. Because the Bodo airfield was involved in NATO maneuvers taking place in the Barents Sea area, Bissell informed the White House that neither mission could be flown before 19 April. Once the maneuvers ended, bad weather over the Soviet Union kept the mission from taking place when it was originally scheduled. Richard Bissell, therefore, asked President Eisenhower for more time, and, on 25 April, General Goodpaster relayed the President's instructions to Bissell that "one additional operation may be undertaken, provided it is carried out prior to May 1. No operation is to be carried out after May 1."[24] The President did not want to fly missions any later than that because the Paris Summit was scheduled to begin on 16 May 1960.

By this time, CIA planners were concentrating on Operation GRAND SLAM as the most likely route for the proposed mission because it offered the best chance of photographing suspected locations

[23] *OSA History*, chap. 12, pp. 35-36 (TS Codeword).

[24] Ambrose, *Eisenhower: The President*, p. 569; Beschloss, *Mayday*, p. 10.

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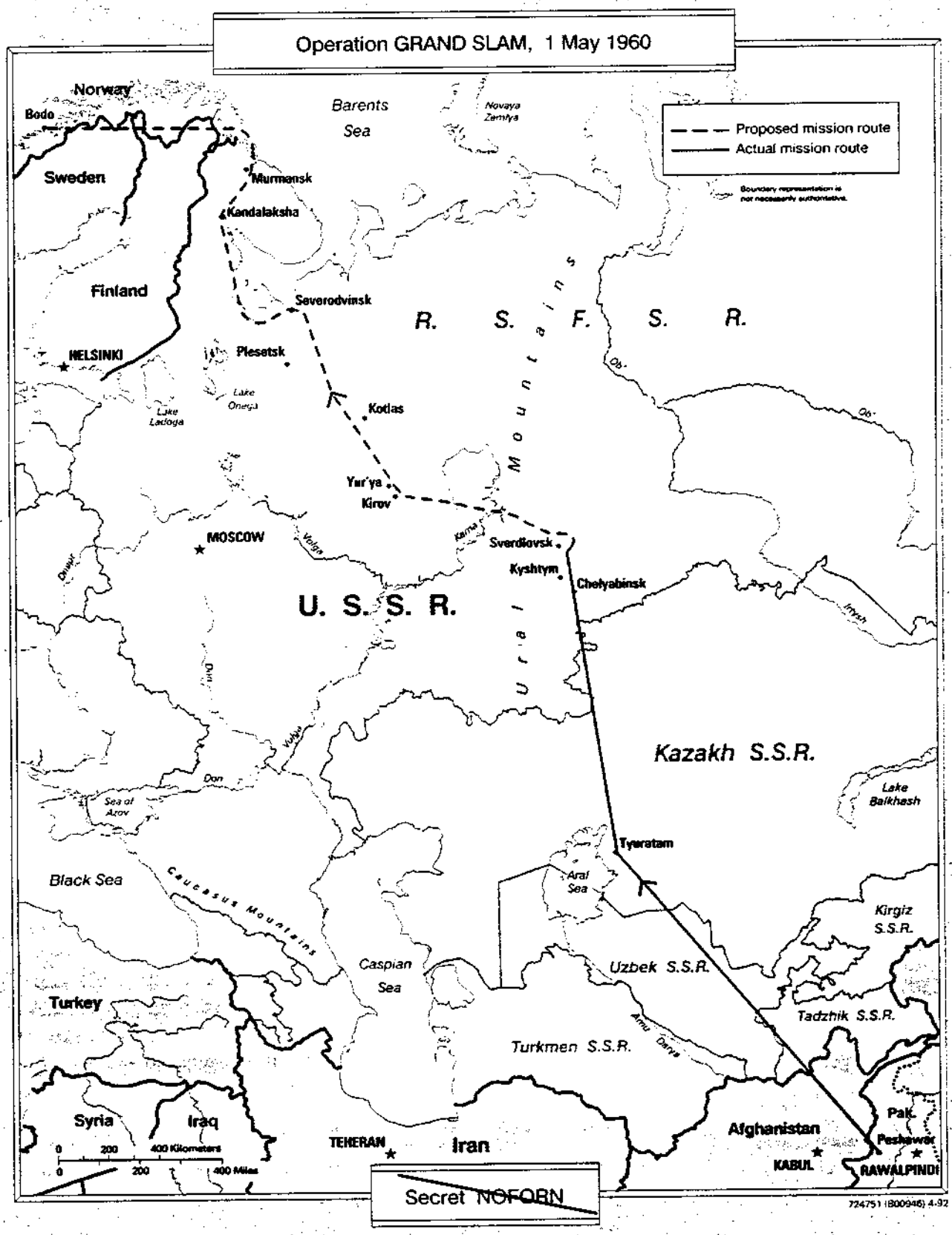

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of Soviet ICBM sites. The other proposed overflight, Operation TIME STEP out of Greenland, was more likely to run into bad weather (which would affect both navigation and photography) because the flightpath would remain above 60° north latitude during the entire mission. Furthermore, mission planners opposed this route because of its greater risk. In his letter to Richard Bissell on 14 March 1960, Colonel Burke stated:

> *Operation "TIME STEP" is our last choice because we can assume, with a 90 percent probability of being correct, that we will be detected on entry, tracked accurately throughout the period in denied territory (approximately four hours), and will evoke a strong PVO [Soviet Air Defense] reaction. This flight plan would permit alerting of SAM sites, and pre-positioning of missile equipped fighters in the Murmansk area (point of exit) thus enhancing the possibility of successful intercept. In addition, we must assume that even were the Soviets unable to physically interfere with such an incursion, sufficient evidence will be available to permit them to document a diplomatic protest should they desire to do so.*[25]

The concerns raised by Colonel Burke about TIME STEP should also have been raised about Operation GRAND SLAM, which would be the most adventuresome overflight to date because it proposed covering so much of the Soviet Union. If the Soviets could track the U-2 early in the mission, they would have plenty of time to prepare to intercept the aircraft.

The pilot selected for Operation GRAND SLAM was Francis Gary Powers, the most experienced U-2 pilot in the program. Powers had joined the project in May 1956 and had flown 27 operational missions in the U-2, including one each over the Soviet Union and China as well as six along the Soviet border.

To prevent the U-2 from being seen at Peshawar, project managers decided to ferry the aircraft from Adana to Pakistan the night before the scheduled flight. Once the plane was refueled and its camera was loaded, it would take off at daybreak, with little if any exposure to local residents because of darkness and its short stay—less than six

[25] Memorandum for Richard M. Bissell, Deputy Director (Plans), from Col. William Burke, Acting Chief, DPD, "Evaluation of Proposed CHALICE Operations," 14 March 1960, IC Staff, COMIREX records, job 33-T-123A, box 10, "CHALICE (General)" (TS Codeword).

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hours on the ground. Originally scheduled for Thursday, 28 April, GRAND SLAM was canceled because of bad weather over the northern Soviet Union. This had been the case for the past several weeks. When this flight was canceled, the U-2 returned to Adana before sunrise. That evening the U-2 flew back to Peshawar for another attempt to stage the mission early on the 29th, but bad weather again forced cancellation of the mission, and the U-2 returned to Adana. Because of continued bad weather over the target areas, no mission was planned for Saturday, 30 April.[26]

Meanwhile, the plane ferried to Peshawar on 27 and 28 April had accumulated so many hours of flight time that it had to be removed from service for periodic maintenance. A different aircraft was, therefore, ferried to Peshawar on Saturday night, 30 April. This aircraft, article 360, had made a crash landing in Japan during the previous September (see chapter 5). Although it had been refurbished by Lockheed and now had the more powerful J75 engine that would give it greater altitude, pilots did not completely trust this aircraft and considered it a "hangar queen." As Powers noted in his memoirs, "Its current idiosyncrasy was one of the fuel tanks, which wouldn't feed all its fuel."[27] The aircraft was equipped with a B-model camera, a System-VI electronic intelligence unit, and a System-IXB device, which generated false-angle information in response to the radar pulses used by some Soviet airborne-missile fire-control systems.

Operation GRAND SLAM, mission 4154 and the 24th deep-penetration overflight of the Soviet Union, began almost 30 minutes late on Sunday, 1 May 1960, a delay due to difficulty in getting takeoff approval from Washington. This delay was caused by communications problems that are typical at sunrise and sunset during spring and autumn, when the ionosphere will not support reliable communications. In attempting to relay the authorization message, the radio operator in Adana was unable to reach the base in Peshawar, whose codename was HBJARGON. Realizing that neither the prearranged nighttime nor daytime frequencies were working, the operator began sending a message in the clear, using one of the guard frequencies in the transition area between the daytime and nighttime frequencies. The radio operators at Peshawar kept hearing the Morse

[26] Mission folder 4154 (1 May 1960), OSA records (TS Codeword).

[27] Powers, *Operation Overflight*, p. 76.

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code letters JGOHB, JGOHB as they tuned from one prearranged frequency to the other. Then one of the Peshawar operators decided to tune in the guard frequency where the Morse transmission was strongest. He was able to discern a break in the letters, making the message read "HBJGO HBJGO." The Peshawar operators realized this stood for "HBJARGON Go." The detachment chief, Col. William Shelton, who had been waiting anxiously inside the radio van for a "Go" or "No Go" message, leaped from the van and ran across the field to give the signal for takeoff to Powers, who was sitting in the U-2C at the end of the runway.[28]

Powers started his takeoff roll at 0159Z on 1 May 1960. Once airborne, Powers guided his aircraft toward Afghanistan. Following standard operating procedure, Powers clicked his radio switch when he reached penetration altitude of 66,000 feet, which signaled the operations unit at Peshawar that everything aboard the aircraft was working and the mission would proceed as planned. Aside from this simple signal, Powers and all U-2 pilots maintained strict radio silence during penetration missions.

Powers' first target was the Tyuratam Missile Test Range after which he headed for Chelyabinsk, just south of Sverdlovsk. The planned route would take him over Kyshtym, Sverdlovsk, northwest to Kirov, north over Yur'ya and Plesetsk, then to Severodvinsk, northwest to Kandalaksha, north to Murmansk, and, finally, west to Bodo, Norway.

May Day turned out to be a bad time to overfly the Soviet Union. On this major holiday, there was much less Soviet military air traffic than usual, so Soviet radars could easily identify and track Powers' U-2. In addition, the Soviets responded to the intrusion by ordering a ban on civilian air traffic in a large portion of the Soviet Union. Soviet radar began tracking the U-2 when it was still 15 miles south of the Soviet-Afghan border and continued to do so as the aircraft flew across the Central Asian republics. When Powers reached the Tashkent area, as many as 13 Soviet interceptor aircraft scrambled in an unsuccessful attempt to intercept his plane.

Powers never made it past Sverdlovsk. Four and a half hours into the mission, an SA-2 surface-to-air missile detonated close to and just behind his aircraft and disabled it 70,500 feet above the Sverdlovsk

[28] Richard K. Pero, "Message Received—Unfortunately," *Studies in Intelligence* 27 (Winter 1983):29 (S).

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area. The plane began spiraling down toward the ground and Powers looked for a way out. Unable to use the ejection seat because centrifugal force had thrown him against the canopy, he released the canopy and prepared to bail out, waiting to arm the destruction device at the last minute, so that it would not go off while he was still in the plane. When he released his seatbelt, however, he was immediately sucked out of the aircraft and found himself dangling by his oxygen hose, unable to reach the destruction switches. Finally, the hose broke and he flew away from the falling aircraft. After he fell several thousand feet, his parachute opened automatically, and he drifted to earth where he was quickly surrounded by farmers and then by Soviet officials.[29] His aircraft had not been destroyed by the crash, and the Soviets were able to identify much of its equipment when they put it on display 10 days later. Even if Powers had been able to activate the destruction device, however, it would not have destroyed the aircraft. The small explosive charge was only designed to wreck the camera.

How had the Soviets succeeded in downing the U-2? Although some CIA project officials initially wondered if Powers had been flying too low through an error or mechanical malfunction, he maintained that he had been flying at his assigned altitude and had been brought down by a near miss of a Soviet surface-to-air missile. This turned out to be the case, for in March 1963, the US air attache in Moscow learned that the Sverdlovsk SA-2 battery had fired a three-missile salvo that, in addition to disabling Powers' plane, also scored a direct hit on a Soviet fighter aircraft sent aloft to intercept the U-2.[30] Mission planners had not known about this SAM site before the mission because they always laid out flight plans to avoid known SAM sites.

THE AFTERMATH OF THE U-2 DOWNING

The first indication that something was wrong with Powers' mission came even before he was overdue at Bodo, Norway. The CIA Operations Center learned on 1 May at 0330 hours Washington time

[29] Powers, *Operation Overflight*, pp. 82-84; Beschloss, *Mayday*, pp. 26-28; Transcript of Debriefing Tapes of Francis Gary Powers, 13 February 1962, Board of Inquiry on the Conduct of Francis Gary Powers, Operations MUDLARK files, OSA records, job 74-B-605, box 6 (S).

[30] Cunningham interview, 4 October 1983 (TS Codeword); *OSA History*, chap. 14, p. 55 (TS Codeword).

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that the Soviets had discontinued radar tracking of the flight's progress two hours earlier (0529Z), southwest of Sverdlovsk. Although there was no word from the Soviet Union concerning the missing U-2, key project personnel assembled in the Agency control center that morning (with the exception of Bissell, who was out of town and did not arrive until 1530) to analyze the latest information and discuss courses of action. They quickly established a new project, known as Operation MUDLARK, to gather and evaluate all available information about the downed U-2.[31]

Bissell and the other project officials did not know whether Powers was dead or if the plane and camera had been destroyed, but they believed that there was no way that a pilot could survive a crash from an altitude above 70,000 feet. They, therefore, decided to stick with the standard cover story for U-2 flights: that they were weather flights staged by the National Aeronautics and Space Administration (NASA)—originally the National Advisory Committee for Aeronautics, renamed in 1958. This cover story had been approved by the President in 1956.

By the end of the day, the Operation MUDLARK officials had prepared a statement based on the standard cover story but modified to fit the available information on Powers' flight and to show Adana as the aircraft's base in order to conceal Pakistan's role in the mission. This revised cover story, along with a mission flight plan consistent with it, was sent to the field commander at Adana, to Air Force Europe headquarters, [redacted] to replace the cover story that had been prepared and distributed in advance of the mission. The first announcement of the new cover story came late on 2 May by the Adana base commander, but it did not appear in print until the following day. On Tuesday, 3 May, NASA released a statement about a high-altitude weather plane that was missing on a flight inside Turkey. The statement had been designed to provide an explanation for the presence of wreckage inside the Soviet Union by noting that "the pilot reported over the emergency frequency that he was experiencing oxygen difficulties." [32] Thus, if the Soviets protested and pointed to wreckage inside their borders, NASA could claim that the pilot had lost consciousness and the aircraft had then flown into the Soviet Union before crashing.

[31] Geary interview (S).

[32] Beschloss, *Mayday*, p. 39.

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This statement had been prepared for a "best case" scenario, that is to say, one in which neither the pilot nor the plane and film survived. However, pilots had bailed out from extremely high altitudes and survived, and there was even evidence from previous U-2 crashes that much of the aircraft itself could be salvaged. The small destructive charge aboard the U-2 was not sufficient to destroy much more than the camera. The tightly rolled film, which could reveal the exact purpose of the mission even if the pilot and aircraft did not survive, was very hard to destroy. Kelly Johnson later conducted an experiment that revealed film taken out of a completely burned-out aircraft could still provide usable imagery.[33] After almost four years of successful U-2 missions, Richard Bissell and the rest of the Development Projects Division had become overconfident and were not prepared for the "worst case" scenario that actually occurred in May 1960. This failure played directly into the hands of Soviet Premier Nikita Khrushchev, who shrewdly decided to release information about the downed U-2 a little at a time, thereby encouraging the United States to stick with its vulnerable cover story too long. As he later wrote, "Our intention here was to confuse the government circles of the United States. As long as the Americans thought the pilot was dead, they would keep putting out the story that perhaps the plane had accidentally strayed off course and been shot down in the mountains on the Soviet side of the border."[34] The first word from the Soviet Union came on Thursday, 5 May, when Premier Khrushchev announced to a meeting of the Supreme Soviet that a US "spyplane" had been downed near Sverdlovsk. He made no mention of the fate of its pilot.

Khrushchev's announcement aroused considerable interest in the media in the United States, and that same day the State Department and NASA issued another statement that continued the "weather plane" cover story, adding that the pilot became lost during a routine mission near the Caucasus Mountains. Soon afterward, the US Ambassador to Moscow cabled a report to the State Department indicating that the pilot might be alive after all. Two days later, on 7 May 1960, Khrushchev confirmed this report by revealing that the U-2 pilot was alive and had admitted his mission of spying on the Soviet Union.

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[33] Geary interview.

[34] Khrushchev, *Khrushchev Remembers: The Last Testament*, p. 507.

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Khrushchev and the U-2 wreckage

This revelation completely demolished the US cover story, and senior administration officials then debated what the appropriate course of action should be. Allen Dulles offered to take responsibility for the overflight and resign, but President Eisenhower did not want to give the world the impression that he was not in control of his administration. On Wednesday, 11 May, the President read a statement to the press in which he assumed full responsibility for the U-2 mission but left open the question of future overflights, even though four days earlier he had approved the recommendation of his key foreign policy advisers to terminate all provocative intelligence operations against the Soviet Union.[35]

The U-2 affair had its greatest consequences when the long-awaited summit meeting in Paris began less than a week later on 16 May. Soviet Premier Khrushchev insisted on being the first speaker and read a long protest about the overflight, ending with a demand for an apology from President Eisenhower. In his reply

[35] *OSA History*, chap. 14, pp. 14-16 (TS Codeword); Beschloss, *Mayday*, pp. 43-66, 243-258.

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Eisenhower stated that overflights had been suspended and would not be resumed, but he refused to make a formal apology. At that point the summit ended, as did all hopes for a visit to the Soviet Union by President Eisenhower.

THE WITHDRAWAL OF THE OVERSEAS DETACHMENTS

The loss of Powers' U-2 ultimately resulted in the end of Detachment B in Turkey. As soon as the Development Projects Division learned that Powers was alive in Soviet hands, it immediately evacuated the British pilots from Adana to protect the secret of their involvement in the project. Project officials hoped that flights might eventually resume from Adana, but President Eisenhower's order ending overflights of the Soviet Union made this very unlikely. Less than four weeks later, a coup ousted the government of Turkish Premier Adnan Menderes on the night of 27 May 1960. Because the new government had not been briefed on the U-2, Project Headquarters refused to allow any U-2 flights from Adana, even those necessary for maintaining the aircraft's airworthiness. As a result, no more U-2s flew out of Adana. Instead of being ferried home, three of the four remaining U-2s were disassembled and loaded aboard C-124 cargo planes for the return trip to the United States.[36]

The fourth U-2 remained inside a hangar at Incirlik airbase for several years, looked after by a skeleton crew, in case the Adana installation needed to be reactivated. Finally the decision was made to close down the Adana U-2 facility. During Detachment B's 44 months of active existence, 21 pilots had flown its aircraft, including four RAF pilots and three pilots transferred from the deactivated Detachment A. Fourteen Detachment B pilots were later assigned to other U-2 detachments, but the closing down of Detachment B marked the end of Britain's direct involvement in U-2 operational overflights. A four-man unit of RAF U-2 pilots was stationed at Detachment G, Edwards AFB, until the end of the CIA U-2 program in 1974, but RAF pilots never again conducted an overflight in an Agency U-2.

The loss of Powers' U-2, the resultant failure of the Paris Summit, and the end of U-2 operations in Turkey were just the first in a series of setbacks for the U-2 program. On 8 July 1960, the

[36] *OSA History*, chap. 12, pp. 46-47 (TS Codeword).

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Japanese Government, faced with growing anti-American sentiment and complaints in the press about the presence of "spyplanes" on Japanese territory, asked the United States to remove the U-2s. The very next day the CIA closed Detachment C; its U-2s were dismantled and returned to the United States aboard C-124s.[37]

In the midst of the furor in Japan, on 1 July 1960, just six weeks after the Paris Summit, Soviet fighter aircraft shot down an Air Force RB-47 on an electronic intelligence collection mission over international waters near the Soviet Union's Kola Peninsula. Two survivors were captured. The Soviet Union claimed that the aircraft had violated its airspace, while the United States denounced the Soviets for downing the plane over international waters. The acrimony exacerbated an already tense international atmosphere.[38]

One additional blow to the U-2 program came in the summer of 1960. NASA, concerned about the damage to its reputation from its involvement in the U-2 affair and hoping to obtain international cooperation for its space program, decided to end its support of the cover story that U-2s were conducting weather research under its auspices.[39]

These developments resulted in a complete halt to all U-2 operations from overseas bases for more than six months. Pilots and aircraft from Detachments B and C were consolidated into Detachment G at Edwards Air Force Base, California, the unit formed after the CIA had vacated the Nevada testing site in 1957 as a result of AEC nuclear testing. Detachment G now comprised eight pilots from Detachment B and three pilots from Detachment C. Because Powers' capture had compromised Project CHALICE, the Agency assigned a new cryptonym to the U-2 effort; henceforth, it was called Project IDEALIST.[40]

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[37] *OSA Chronology*, p. 28 (TS Codeword).

[38] "Mystery of the RB-47," *Newsweek*, 25 July 1960, pp. 36-37; "Nikita and the RB-47," *Time*, 25 July 1960, pp. 30-31.

[39] At a meeting of high-level CIA, NASA, and State Department officials on 31 May 1960, NASA was willing to continue its association with U-2 flights for the time being, but the Administrator of NASA, Dr. Keith Glennan, believed that his agency "would be well advised to disengage from the U-2 program as rapidly as possible." James A. Cunningham, Memorandum for the Record, "Telephone Conversation with Dr. Hugh Dryden, Deputy Director, NASA," 1 June 1960, DPD chrono file #4553-60, OSA records (S).

[40] *OSA History*, chap. 12, pp. 47-49; chap. 16, p. 10 (TS Codeword).

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THE FATE OF FRANCIS GARY POWERS

Downed U-2 pilot Francis Gary Powers underwent extensive interrogation at the hands of the Soviets. His instructions from the CIA on what to do in the event of capture were meager, and he had been told that he might as well tell the Soviets whatever they wanted to know because they could get the information from his aircraft anyway. Nevertheless, Powers tried to conceal as much classified information as possible while giving the appearance of cooperating with his captors. To extract the maximum propaganda value from the U-2 Affair, the Soviets prepared an elaborate show trial for Powers, which began on 17 August 1960. Powers continued to conceal as much information as possible, but, on the advice of his Soviet defense counsel, he stated that he was sorry for his actions. The Soviet court sentenced him to 10 years' "deprivation of liberty," with the first three to be spent in prison.[41]

During the next 18 months, confidential negotiations to obtain the release of Powers took place as the United States explored the possibility of trading convicted Soviet master spy Rudolf Abel for Powers. These negotiations were conducted by Abel's court-appointed defense counsel, former OSS lawyer James Donovan, in correspondence with Abel's "wife" (probably his Soviet control) in East Germany. In November 1961, Acting DCI Pearre Cabell wrote to Secretary of State Dean Rusk supporting such a trade, and on 10 February 1962 the actual exchange took place in the middle of the Glienecke Bridge connecting East and West Berlin. As part of the deal, American graduate student Frederick Pryor, who had been jailed in East Germany for espionage, was released at another location.

After Powers returned to the United States, he underwent extensive debriefing, for many questions about his mission remained unanswered. To conduct the debriefing, the Agency immediately reconvened the Damage Assessment Team that had met for two months in the summer of 1960 to estimate what Powers knew about the overflight program and could have told Soviet interrogators. Given Powers' long involvement with the U-2 program, the team had concluded in 1960 that his knowledge was extensive and he had probably revealed most of it to the Soviets. After two weeks of debriefing Powers in February 1962, however, the team found that the damage was much less than had been estimated, and they were quite satisfied

[41] Powers, *Operation Overflight*, pp. 160-192; Beschloss, *Mayday*, pp. 331-335.

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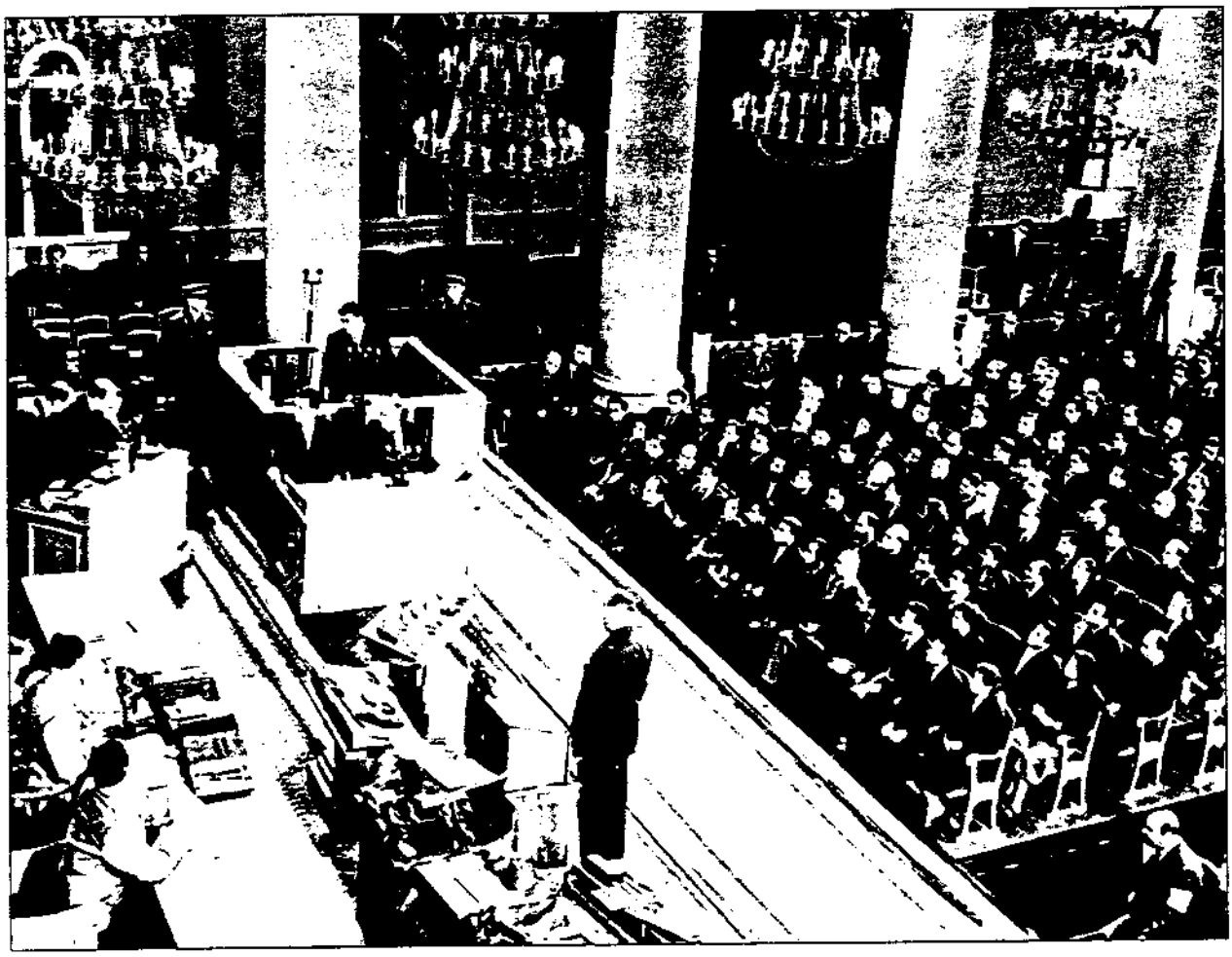

Trial of Francis Gary Powers

with Powers' behavior.[42] After reading the debriefing reports, Allen Dulles expressed support of Powers' actions and told Powers, "We are proud of what you have done," but Dulles had already resigned as DCI in November 1961.[43] The new DCI, John A. McCone, demanded a closer look at Powers' actions and set up a Board of Inquiry headed by retired Federal Judge E. Barrett Prettyman. After eight days of hearings and deliberation, the board reported on 27 February that Powers had acted in accordance with his instructions and had "complied with his obligations as an American citizen during this period." The board, therefore, recommended that he receive his back pay.

[42] James J. White, "Francis Gary Powers—The Unmaking of a Hero, 1960-1965," (draft), CIA History Staff, 1974, p. 19 (S).

[43] Powers, *Operation Overflight*, p. 307.

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The Prettyman Board's finding was based on a large body of evidence indicating that Powers was telling the truth about the events of 1 May 1960: the testimony of the experts who had debriefed Powers after his return; a thorough investigation of Powers' background with testimony by doctors, psychiatrists, former Air Force colleagues, and his commander at Adana; Powers' own testimony before the board; the results of a polygraph examination that he had volunteered to undergo; and the evidence provided by photographs of the wreckage of his aircraft, which Kelly Johnson had analyzed and found consistent with Powers' story. Nevertheless, DCI McCone remained skeptical. He asked the Air Force to convene its own panel of experts to check Johnson's assessment of the photographs of the U-2. The Air Force quickly complied, and the panel supported Johnson's findings. McCone then seized upon the one piece of evidence that contradicted Powers' testimony—a report by the National Security Agency (NSA) that suggested that Powers may have descended to a lower altitude and turned back in a broad curve toward Sverdlovsk before being downed—and ordered the Prettyman Board to reconvene on 1 March for another look at this evidence. The board remained unconvinced by NSA's thin evidence and stuck to its original findings. A few days later, on 6 March 1962, Powers appeared before the Senate Armed Services Committee, which commended his actions. The Senate Foreign Relations Committee also held brief hearings on the U-2 Affair, with DCI McCone representing the CIA.[44]

Although all of these inquiries found Powers to have acted properly, they did not release many of their favorable findings to the public, which had received a very negative image of Powers' behavior from sensational press reports and statements by public figures who were not aware of (or chose to ignore) the truth about Powers' actions while in captivity. One member of the Senate Foreign Relations Committee, Senator John J. Williams, expressed concern about the impact of this silence on Powers' reputation in a question to DCI McCone on 6 March 1962: "Don't you think he is being left with just a little bit of a cloud hanging over him? If he did everything he is supposed to do, why leave it hanging?"[45] Doubts about Powers did remain in the public mind because he received no public recognition for his efforts to withhold information from the Soviets. He was also

[44] Beschloss, *Mayday*, p. 352-354; Thomas Powers, *Man Who Kept the Secrets*, p. 328; Prettyman Board, DCI records (S).

[45] United States Congress, Senate, Foreign Relations Committee, *Executive Sessions of the Senate Foreign Relations Committee (Historical Series)*, vol. 12, 86th Congress, Second Session, "Report on the U-2 Incident," 6 March 1962, p. 265 (declassified 1982).

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snubbed by President Kennedy, who one year earlier had warmly welcomed two Air Force RB-47 fliers released by the Soviet Union. McCone remained hostile to Powers, and in April 1963 he awarded the Intelligence Star to all of the U-2 pilots except Powers. Finally on 25 April 1965, just two days before McCone's resignation became effective, Powers received the Star (which was dated 1963 on the back) from DDCI Marshall S. Carter.[46]

Powers' return from captivity raised the question of what his future employment should be. This issue had already been discussed one year earlier by John N. McMahon, executive officer of the DPD, who noted that he and Col. Leo P. Geary (the Air Force project officer) were concerned about a major dilemma for the CIA and the US Government: "On the one hand we have gone to considerable lengths to prove that the U-2 program was a civilian undertaking and not military aggression; on the other hand there is on file a document that assures Francis Gary Powers that if he so desires he may be *reinstated* into the USAF." On 21 March 1961 McMahon wrote:

> *If we grant him [Powers] the right that is now his, namely reinstatement in the Air Force, then we would be subjecting ourselves to probable adverse propaganda by the USSR. Admitting little appreciation for the finer points of political and psychological warfare, should Francis Gary Powers return to the USAF I suspect that the Soviets would have a "PP" field day illustrating our big lie. The question then, since we cannot permit Powers to return to the USAF, is what do we do with him.*[47]

Despite this negative recommendation, the Air Force agreed on 4 April 1962 to reinstate Powers effective 1 July, a decision that was approved by the Agency, State Department, and White House. Then Powers' divorce proceedings began, and the Air Force, concerned about adverse publicity, postponed reinstatement until the end of the proceedings. In the meantime Powers began working for Lockheed as a U-2 pilot. In March 1963, he met with Colonel Geary to discuss his future plans and decided to stay with Lockheed.[48] Powers remained at Lockheed until U-2 testing ceased in September 1969. Earlier in the year, he had published an account of his experiences on

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[46] *OSA History*, chap. 14, p. 54 (TS Codeword); Beschloss, *Mayday*, p. 397.

[47] John N. McMahon to Chief, Cover Staff, DPD, 21 March 1961, Operation MUDLARK files, OSA records, job 74-B-605, box 6 (S).

[48] *OSA History*, chap. 14, p. 52 (TS Codeword).

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the U-2 project under the title *Operation Overflight*. Later he flew a light plane as a traffic reporter for a Los Angeles radio station and then a helicopter for a television station. On 1 August 1977, he and a cameraman from the station died when his helicopter crashed on the way to an assignment.[49]

CHANGES IN OVERFLIGHT PROCEDURES AFTER MAY 1960

One of the most important changes in the overflight program after the loss of Francis Gary Powers' U-2 was the institution of more formal procedures for the approval of U-2 missions. During the first four years of U-2 activity, very few members of the Eisenhower administration had been involved in making decisions concerning the overflight program. The President personally authorized all flights over the Soviet Union and was consulted by Richard Bissell and either the DCI or the DDCI about each such proposed mission. In addition to CIA officials, the President's discussions of individual U-2 missions or of the program as a whole generally included the Secretary of State or his Under Secretary, the Chairman of the Joint Chiefs of Staff, the Secretary of Defense or his deputy, and the President's secretary, Colonel (later General) Goodpaster.

The approval process under President Eisenhower was thus very unstructured. There was no formal approval body charged with reviewing overflight proposals; the President kept this authority in his hands and simply consulted with selected cabinet officials and advisers before reaching a decision. In 1959 the U-2 program had gained a second approval authority when British Prime Minister Harold Macmillan became the approval authority for missions conducted by the RAF pilots in Detachment B.

The loss of Powers' U-2 in May 1960 led to major changes in the approval process. For all practical purposes, Prime Minister Macmillan ceased to be a source of approval because the RAF pilots who remained in the U-2 program did not conduct any more operational missions (although the use of British pilots was considered on several occasions). In the United States the approval process

[49] Beschloss, *Mayday*, pp. 396-401. Beschloss claims that Powers was fired by Lockheed for criticizing the Agency in his memoirs (which he had shown to the Agency in draft form), but Kelly Johnson's "U-2R Log" records on 25 September 1969: "We have no flight test activity at all. I must let Gary Powers go. Have protected him for about seven years, but he doesn't have an ATR (Air Transport Rating), so we have no other job for him—not even flying the Beechcraft."

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became more formal as the National Security Council became involved. Henceforth, proposed missions had to be submitted to the National Security Council (NSC) Special Group for approval. In the early 1960s, the Special Group consisted of the DCI, the Deputy Secretary of Defense, the Under Secretary of State, and the Military Adviser to the President. After the Military Adviser, Gen. Maxwell Taylor, became Chairman of the Joint Chiefs of Staff in 1962, his place on the Special Group was taken by McGeorge Bundy, the President's Special Assistant for National Security Affairs.[50]

Before requesting permission from the Special Group for a U-2 mission over denied territory, the CIA prepared a detailed submission giving justification for the proposed mission and maps showing the targets to be photographed, flight times, and emergency landing sites. Such submissions came to be known as "black books" because they were placed in black, looseleaf binders. The decision of the Special Group was generally final, although on occasion controversial issues were presented to the President for his decision.

This approval process did not come into play immediately after May 1960 because there was a long pause in U-2 operations as the detachments returned from overseas. It was not until late October 1960 that the next U-2 operation occurred, this time over Cuba. By this time the full approval procedure had been established, and the Special Group approved the mission (see chapter 5).

The approval process was not the only part of the U-2 program that changed after May 1960. The process for establishing requirements for overhead reconnaissance missions also became more formal. In August 1960 the US Intelligence Board took over the Ad Hoc Requirements Committee and merged it with the Satellite Intelligence Requirements Committee to form the Committee on Overhead Reconnaissance. DCI Directive 2/7 tasked COMOR with the "coordinated development of foreign intelligence requirements for overhead-reconnaissance projects over denied areas." The DCID defined "overhead reconnaissance" to include "all reconnaissance for foreign-intelligence purposes by satellite, or by any vehicle over

[50] The Special Group, which had been created by NSC Intelligence Document 5412/2 in 1955 to oversee covert activities, was originally known as the 5412 Committee. Later the Special Group became known as the 303 Committee and then the 40 Committee. United States Congress, Senate, Select Committee to Study Governmental Operations with Respect to Intelligence Activities, *Foreign and Military Intelligence*, book 1, (Washington, DC: US Government Printing Office, 1976), pp. 48-53.

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denied areas, whether by photographic, ELINT, COMINT, infrared, RADINT, or other means." The only exception to COMOR's area of responsibility was "reconnaissance and aerial surveillance in direct support of actively combatant forces." [51]

By this time the Air Force had developed a large overhead reconnaissance program of its own, including a fleet of U-2s, and, occasionally, there were conflicts between the areas of responsibility of COMOR and the military services for collection requirements. The Air Force had already won a major victory in 1958, when it claimed that the White House had given responsibility for peripheral reconnaissance of the Soviet Union to the military. DCI Dulles, who was always reluctant to become involved in matters that seemed to lie in the military's area of responsibility, did not resist this claim, and the Ad Hoc Requirements Committee stopped preparing requirements for peripheral flights. This ended a major requirements committee study, which sought to estimate what could be gained from U-2 oblique photography along the entire border of the Soviet Union.[52] The last CIA U-2 mission along the Soviet Union's coasts occurred on 22 June 1958; thereafter, the only peripheral missions conducted by the CIA were those along the Soviet Union's southern border with Iran and Afghanistan from bases in Pakistan and Turkey under covert arrangements with the host governments.

Until the spring of 1961, there was virtually no coordination of military reconnaissance activities, even within the individual services. Each commander of a Theater or a Unified and Specified Command conducted his own independent reconnaissance activities. To meet the growing need for overall coordination of these activities at the national level, the Joint Chiefs of Staff (JCS) established the Joint Reconnaissance Center (JRC) under the J-3 (Operations) of the Joint Staff. The JRC immediately began to coordinate and obtain approval for approximately 500 missions per month, assigning each a risk factor of Critical, Sensitive, Unique, or Routine. The JRC then prepared a monthly Activities Book giving details of the proposed missions and briefed the Joint Chiefs of Staff on the more risky missions. The CIA received a copy of the Activities Book.

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[51] DCID 2/7, effective 9 August 1960 (S).

[52] Memorandum for DCI McCone from James Q. Reber, Chairman, COMOR, "Proposed Procedures for Approval of Critical Reconnaissance," 21 March 1962, COMIREX records (TS Codeword).

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Most military reconnaissance missions were approved or disapproved at the JCS level, but the most sensitive missions were submitted through the Secretary of Defense to the Special Group for approval. In addition to this Department of Defense approval path, the military services could also submit requirements through the DCI using their representatives on COMOR. As a result, the military services had two channels for submitting reconnaissance missions to the Special Group. The Agency had only one—COMOR.[53]

The main conflicts between the requirements committee and the military services arose over missions in the Far East. In the early 1960s, North Vietnam had not been designated a denied area by the US Intelligence Board (USIB), so the military services could plan missions there without consulting COMOR. Such missions, however, came very close to China, which was a denied area and, therefore, came under COMOR's area of responsibility. Once the war in Southeast Asia escalated in 1964, the military services received responsibility for the entire area (see chapter 5).

To reduce the number of disputes between the competing CIA and Air Force reconnaissance programs and to manage the growing satellite program, the two agencies worked out an agreement to provide overall coordination for reconnaissance activities at the national level. The first such interagency agreement came in the fall of 1961, and it was followed by three additional agreements during the next four years.[54]

Interest in coordinating the reconnaissance efforts of the military services and the CIA also affected the field of photographic interpretation. In the wake of the loss of Francis Gary Powers' U-2 on 1 May 1960, the President's Board of Consultants on Foreign Intelligence Activities (PFIAB) had urged the establishment of an interagency group to study ways to improve the entire US intelligence community. Formed on 6 May 1960, the Joint Study Group on Foreign Intelligence Activities met for the next seven months under the leadership of Lyman Kirkpatrick, CIA Inspector General. One of the study group's key recommendations in the report it issued in December 1960 was the creation of a national photointerpretation

[53] Ibid (TS Codeword).

[54] Problems of classification prevent a more detailed discussion of this aspect of the reconnaissance program, which will be covered in a future history of satellite reconnaissance at a higher level of classification.

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center that would bring together photointerpreters from the Agency and the military services. The report further recommended that the CIA be placed in charge of the new center. Ignoring Air Force claims that it should head such a center, President Eisenhower approved the report's recommendation, and, on 18 January 1961, National Security Council Intelligence Directive (NSCID) No. 8 established the National Photographic Interpretation Center (NPIC). Henceforth, the director of NPIC would be designated by the DCI and approved by the Secretary of Defense, and the deputy director would come from one of the military services. The first director of NPIC was Arthur S. Lundahl, head of the CIA's Photo-Intelligence Division.[55]

One additional major change in the U-2 program in the years immediately following the May Day incident—although not directly related to the loss of Powers' U-2—was the departure of Richard Bissell from the CIA and the subsequent reorganization of the Agency's reconnaissance and scientific activities. The roots of Bissell's downfall went back to 1 January 1959, when he became Deputy Director for Plans and decided to place all Agency air assets in the DDP in order to maintain control of his overhead reconnaissance projects (the U-2 and its two proposed successors, the OXCART aircraft and the reconnaissance satellite). The previously independent Development Projects Staff became the Development Projects Division (DPD) of the DDP and now controlled all Agency air operations, including air support for covert operations. As a result, U-2s were occasionally employed for gathering intelligence to support DDP operations in addition to their primary mission of gathering strategic and tactical intelligence.

Although the reorganization made sense in terms of increasing the efficiency of Agency air operations, the use of the U-2 to support covert action disturbed Bissell's backers among the scientists advising Presidents Eisenhower and Kennedy, especially James Killian and Edwin Land. They were concerned that Bissell was becoming too involved in covert action and was not able to devote sufficient time to the overhead reconnaissance program. Then came the disastrous Bay of Pigs invasion in April 1961, which discredited Bissell with the Kennedy administration in general and the two scientists in particular. Later that year, Bissell lost another important source of support when Allen Dulles resigned as DCI in November 1961. During his final

[55] Lundahl and Brugioni interview (TS Codeword).

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months as the Deputy Director for Plans, Bissell found himself involved in a major struggle with Killian and Land, who were serving on President Kennedy's Foreign Intelligence Advisory Board (successor to the Eisenhower administration's President's Board of Consultants on Foreign Intelligence Activities). These two influential Presidential advisers strongly advocated removing the Agency's overhead reconnaissance programs from the DDP and placing them in a new, science-oriented directorate, but Bissell resisted this proposal. With his position in the Agency becoming increasingly untenable, Bissell resigned on 17 February 1962, after turning down an offer from the new DCI, John A. McCone, to become the CIA's first Deputy Director for Research.[56]

Two days after Bissell's departure, the new Directorate came into existence, and it absorbed all of the Development Projects Division's special reconnaissance projects. Only conventional air support for the Clandestine Services remained with the DDP in the new Special Operations Division. The U-2 program was no longer connected with covert operations.

The first half of 1962 was a confusing period for the Development Projects Division. After losing the individual who had created and supervised it for seven years, the DPD also lost its feeling of autonomy when it was transferred from its own building to the new CIA Headquarters at Langley. Soon afterward, Col. Stanley W. Beerli, who had headed the DPD since 1960, returned to the Air Force. Then on 30 July 1962, the overhead reconnaissance projects underwent a major reorganization with the formation of the new Office of Special Activities (OSA) to replace the DPD. The original organization of OSA with 10 division or staff heads reporting directly to the director of the office (at that time known as the Assistant Director for Special Activities) proved too cumbersome, and, on 30 September 1962, a reorganization divided most of these offices between two major subordinates, the Deputy for Technology and the Deputy for Field Activities (see chart, page 193). The Office of Special Activities (OSA) continued to control reconnaissance activities and related research and development after the Directorate of Research was enlarged and renamed the Deputy Directorate for Science and Technology (DDS&T) on 5 August 1963 (along with the other

[56] Killian interview (S); Land interview (TS Codeword); Richard M. Bissell to John A. McCone, 7 February 1962, DCI records, job 80-B-1676R, box 18, folder 10 (S).

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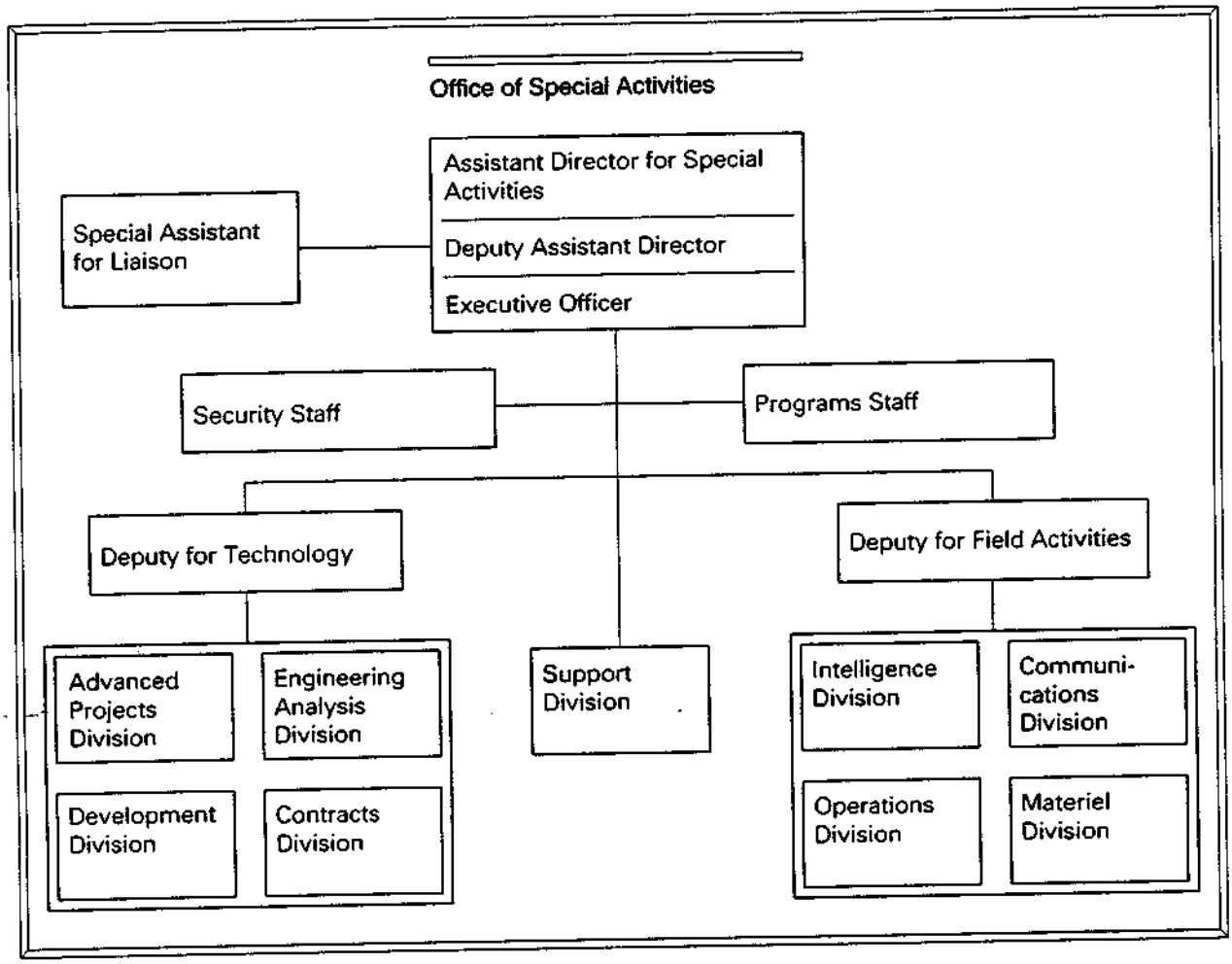

Directorates, DDS&T dropped the "Deputy" from its title in 1965 and became known as the Directorate of Science and Technology). In 1965 the head of OSA received a new title, Director of Special Activities. The Office of Special Activities remained in control of the CIA's overhead reconnaissance activities until 1974, when the Agency ended its involvement with manned reconnaissance aircraft.[57]

[57] *OSA Chronology*, pp. 34-35 (TS Codeword).

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U-2 Operations After May 1960

The loss of Francis Gary Powers' U-2 over the Soviet Union on 1 May 1960 marked the end of the aircraft's use over the Soviet Bloc. Soon after the May Day incident, President Eisenhower ordered an end to overflights. Similarly, his successor, John F. Kennedy, told a 25 January 1961 press conference, "I have ordered that the flights not be resumed, which is a continuation of the order given by President Eisenhower in May of last year." This was not a binding pledge, as John A. McCone (who became DCI in November 1961) pointed out to President Kennedy's successor, Lyndon B. Johnson, on 15 January 1964 in response to the new President's request for information on U-2 overflight policies:

> *Contrary to popular assumption, President Kennedy did not make any pledge or give an assurance, at least publicly, that there would be no further overflights. He limited his response to a statement that he had ordered that the flights not be resumed. An order, obviously, is valid only until countermanded.*[1]

Technically, McCone was correct, but no President was likely to order a resumption of overflights of the Soviet Union without very good reason, and such a situation never developed, in part because satellite photography gradually began to fill the gap left by the end of U-2 coverage.

Although there were several proposals to resume overflights of the Soviet Union in the years that followed, none reached the mission planning stage. The Kennedy administration came closest to resuming

[1] Memorandum for President Johnson from DCI McCone, "Response to Query Concerning U-2 Overflight Policy," 15 January 1964, DCI records, job 80-B-1676R, box 17, folder 14 (TS Codeword).

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overflights of the Soviet Union during the Berlin Crisis in the summer and fall of 1961. On 14 September 1961, Kelly Johnson noted in his project log:

> *Have had request from Mr. Bissell to propose ways and means for increasing safety of the U-2 on probable overflights.... It seems that President Kennedy, who publicly stated that no U-2's would ever be over Russia while he was president, has requested additional flights. Some poetic justice in this.*[2]

One week later Colonel Geary called to order Lockheed to upgrade six older U-2s into U-2Cs with the more powerful engines on a priority basis, even if it meant taking people off the work on the successor aircraft in order to speed up the conversions.

Shortly thereafter, the resumption of overflights became a major topic of discussion within the intelligence community. On 25 September 1961, the Committee on Overhead Reconnaissance prepared a detailed "Justification for U-2 Photography over the USSR," which argued in favor of U-2 missions over selected, high-priority targets such as ICBM complexes. The COMOR paper stated that satellite photography did not provide sufficient detail to answer many critical questions about the Soviet ICBM program. To back up this contention, the report placed U-2 and satellite photography of the same Soviet targets side by side, clearly demonstrating the far superior resolution of the U-2's cameras. Not all members of COMOR supported the resumption of overflights, however. When COMOR formally recommended this course of action to the USIB on 1 October 1961, the State Department and CIA members dissented, having found "insufficient justification for resuming U-2 overflights of the USSR at this time."[3]

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[2] Johnson, "Log for Project X," 14 September 1961. In preparation for the possible resumption of overflights, Kelly Johnson began thinking about what to do in a worst case scenario like that of 1 May 1960. He noted in the project log on 21 September 1961: *One of the greatest technical problems and, of course, a great moral one, is how we insure destroying the aircraft and the pilot should the mission fail. I have proposed a time-altitude fusing setup for multitude bombs, that looks like it should do the trick. Beerli [Col. Stanley Beerli, USAF, Director of the Office of Special Activities] doesn't want anything to do with this, but we will go ahead and develop it in case someone decides it is necessary.*

[3] Memorandum for USIB from COMOR, "Justification for U-2 Photography over the USSR," 25 September 1961, IC Staff, COMIREX records, job 33-T-123A, box 10, "COMOR (General)" (TS Codeword); Memorandum for USIB from COMOR, "Requirements for Resumption of U-2 Overflights of the USSR," 1 October 1961, IC Staff, COMIREX records, job 33-B-119A, box 1 (TS Codeword).

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Nothing came of the proposal to resume overflights in the fall of 1961, as both the USIB and the Special Group came out against it, but, as long as U-2 photography remained clearly superior to satellite photography, the thought of obtaining U-2 coverage of the Soviet Union remained tempting. In February 1962, the USIB seriously considered a COMOR proposal to send a U-2 over Kamchatka to photograph Soviet antiballistic-missile facilities but finally decided to wait for the results of an Air Force peripheral mission. The board later accepted DCI McCone's recommendation to seek satellite rather than U-2 coverage of the area.[4]

With both the CIA and the State Department strongly opposed to sending the highly vulnerable U-2 over the Soviet Union, prospects for resuming flights remained slight unless the international situation worsened to such a degree that overflights would be worth the risks involved. Since this never happened, Francis Gary Powers' flight on 1 May 1960 proved to be the last CIA overflight of the Soviet Bloc. Yet, the U-2 remained useful, for it could operate successfully in other areas with less developed radar and air defense systems. After May 1960, the main focus of U-2 activity shifted to two new areas: Latin America, where U-2s would play an extremely important role during the early 1960s, and the Far East, where CIA U-2s were active from 1958 until 1974, when the Agency's involvement in manned reconnaissance finally ended.

U-2 OPERATIONS IN LATIN AMERICA

U-2 Support to the Bay of Pigs Invasion

During late summer 1960, the Directorate of Plans was planning a counterrevolutionary invasion of Cuba for the following year. To support this effort, the Agency asked the National Security Council's

[4] Memorandum for the Special Group from COMOR, "Illustrations of Policy Restraints on the Collection of Information through Overflight of Denied Areas during 1962," 14 December 1962, IC Staff, COMIREX records, job 33-B-119A, box 1 (TS Codeword); James S. Lay, "The United States Intelligence Board, 1958-1965," (draft) CIA History Staff MS-2, 1974, p. 385 (TS Codeword). One year later Saryshagan was the topic of US Intelligence Board deliberations. In October 1963 the board asked COMOR to prepare recommendations on the need for an electronic intelligence-gathering mission against the Soviet ABM installations at Saryshagan. The proposed mission would not, however, violate Soviet airspace; instead, the U-2 would fly over the portion of the People's Republic of China closest to Saryshagan. Lay, "USIB History," pp. 393-94 (TS Codeword).

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Special Group to approve U-2 overflights of Cuba. Known as Operation KICK OFF, these flights were designed to obtain intelligence on Cuban air and ground order of battle and to provide geographic data for choosing an invasion site.

To allay fears that mechanical problems could lead to the loss of a U-2 over Cuba, the submission to the Special Group for overflights emphasized that, if a U-2 had a flameout anywhere over Cuba, it could still glide back and make a safe landing in Florida. The Special Group approved Operation KICK OFF but stipulated that only two overflights could be made. Detachment G staged the Cuban missions from Laughlin AFB near Del Rio, Texas, a base used by SAC U-2 aircraft. Agency photointerpreters went to Del Rio to read out the photography after these missions. The two flights, on 26 and 27 October 1960, were very long missions, covering 3,500 miles and lasting over nine hours. Because of cloud cover over Cuba, the results of both missions were poor. The Agency, therefore, asked the Special Group to approve additional missions. After receiving authorization, Detachment G conducted three missions (Operation GREEN EYES) on 27 November and 5 and 11 December 1960 with good results.

Overflights of Cuba continued under the new administration of President Kennedy. Under the codename Operation LONG GREEN, two overflights on 19 and 21 March 1961 photographed Cuba extensively to aid the final preparations for the invasion. Two weeks later Detachment G again deployed from Edwards AFB, California, to Laughlin AFB, Texas. Beginning on 6 April, Detachment G U-2s made 15 flights over Cuba to provide photographic coverage of the ill-fated Bay of Pigs invasion and its aftermath. These flights were known as Operation FLIP TOP.[5]

Aerial Refueling Capability for the U-2

Long missions conducted over Cuba in late 1960 and over Southeast Asia in early 1961 pointed out the need to increase the range of the U-2. In May 1961, Lockheed began modifying Agency U-2s so that they could be refueled in flight to extend their operating range. The six Agency aircraft that were modified to achieve this capability received the designation U-2F. All Agency U-2 pilots then underwent training in the techniques of in-flight refueling.

[5] *OSA History*, chap. 16, pp. 13-15 (TS Codeword).

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Aftermath of the Bay of Pigs invasion, 20 April 1961

Refueling a U-2 in flight was a very delicate task. When fully loaded with fuel, KC-135 tankers found it difficult to reduce airspeed to 200 knots, the safest speed for refueling a U-2. As for the U-2s, they were in a very vulnerable position when approaching a tanker at 200 knots because their frail wings could not stand much stress. As a result, U-2 pilots had to approach the KC-135 tankers very carefully in order to avoid the vortexes from the wingtips of the tanker and the turbulence caused by the four large jet engines. During the first few years of refueling operations, two U-2s crashed after their wings broke off as they crossed into the turbulent area behind the tankers; one of the pilots was killed.[6]

The in-flight refueling capability was a useful modification to the U-2, but it could not dramatically extend mission length. The main limiting factor remained pilot fatigue, which prevented missions from lasting longer than approximately 10 hours.

U-2 Coverage During the Cuban Missile Crisis

Cuba remained a high-priority target even after the Bay of Pigs invasion failed in April 1961. Soon afterward, Detachment G U-2s began flying monthly missions over Cuba in a program known as Project

[6] Ibid., p. 11-12 (TS Codeword).

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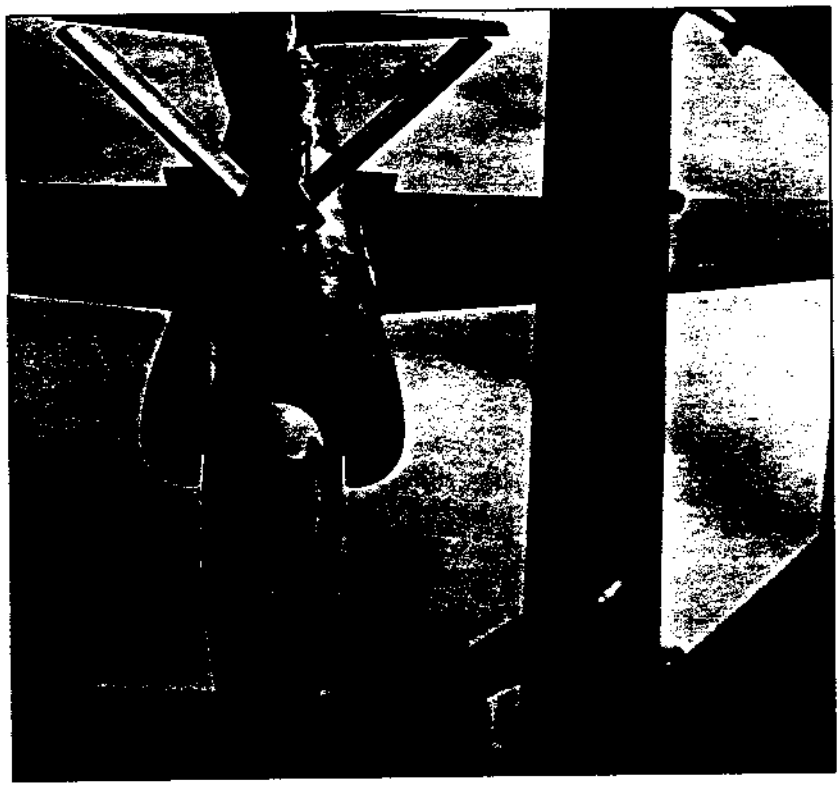

In-flight refueling of a U-2

NIMBUS. Most of the flights were staged from Laughlin AFB, Texas, but three were flown from Edwards AFB, California, using in-flight refueling to extend the range of the aircraft. By the spring of 1962, having received reports of increased Soviet activity in Cuba, the CIA requested permission for additional photographic coverage of the island. The Special Group authorized increasing the number of Cuban overflights to at least two per month, beginning in May 1962. At the same time, the National Photographic Interpretation Center began publishing a *Photographic Evaluation of Information on Cuba* series.[7]

By early August 1962, CIA analysts had noted a substantial increase in Soviet arms deliveries to Cuba during the preceding weeks. The first U-2 overflight in August, mission 3086 on the 5th, flew too soon to detect the Soviet construction program just getting under way at various sites in Cuba. A second mission (3088) was originally set for 8 August, but bad weather forced repeated postponements until 29 August. This mission's photography provided the first hard evidence

[7] Ibid., pp. 19-20 (TS Codeword).

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of the nature of the Soviet buildup in Cuba. Two days after the mission, the CIA reported in the *President's Intelligence Checklist* that there were at least eight surface-to-air missile (SA-2) sites in the western half of Cuba.* (The map on page 202 shows the routes taken by the two August overflights.)

DCI John A. McCone

On 5 September the next U-2 overflight (mission 3089) provided more evidence of the Soviet buildup. The mission's photography showed three more SAM sites and also revealed a MiG-21, one of the newest Soviet fighter aircraft, at the Santa Clara airfield.

The discovery of SAMs in Cuba had a twofold effect on the US reconnaissance effort over Cuba. First, it added substance to DCI McCone's fears that Cuba might become a base for Soviet medium-range ballistic missiles (he argued that SAM sites would only be set up to protect high-priority facilities such as missile bases). At this time, however, McCone's suspicions were not shared by other officials in the Agency or the administration. The second and most significant effect of the discovery of SAMs in Cuba was to make the administration far more cautious in its use of U-2s for reconnaissance of the island. As the loss of Francis Gary Powers' U-2 in May 1960 had demonstrated, the U-2 was very vulnerable to the SA-2 missile.

Within the administration, concern mounted about the U-2's vulnerability to SAMs in Cuba and the possibility that a loss could cause a major diplomatic crisis. Such fears increased as the result of two incidents in other parts of the world. On 30 August 1962, a SAC U-2 on a peripheral reconnaissance mission overflew Sakhalin Island in the Far East, prompting a Soviet protest on 4 September. The United States apologized for the intrusion. Then on 8 September, a U-2 with a Nationalist Chinese pilot was shot down over the People's Republic of China (this CIA reconnaissance program is discussed later in this chapter in the section on Asian operations). Increasing concern about U-2 vulnerability led to an impromptu meeting on 10 September 1962 of Secretary of State Dean Rusk, National Security Adviser McGeorge Bundy, and DDCI Marshall S. Carter (in place of the DCI, who was on his honeymoon in France). The Secretary of State objected to the CIA's plans for two extended overflights covering the remaining areas of Cuba not covered by the last two missions. Rusk wanted peripheral flights over international waters kept separate from

* Richard Lehman, "CIA Handling of the Soviet Buildup in Cuba, 1 July–16 October 1962," 14 November 1962 (Hereafter cited as Lehman Report), DCI records, job 80-B-1676R, box 17, folder 18 (TS Codeword).

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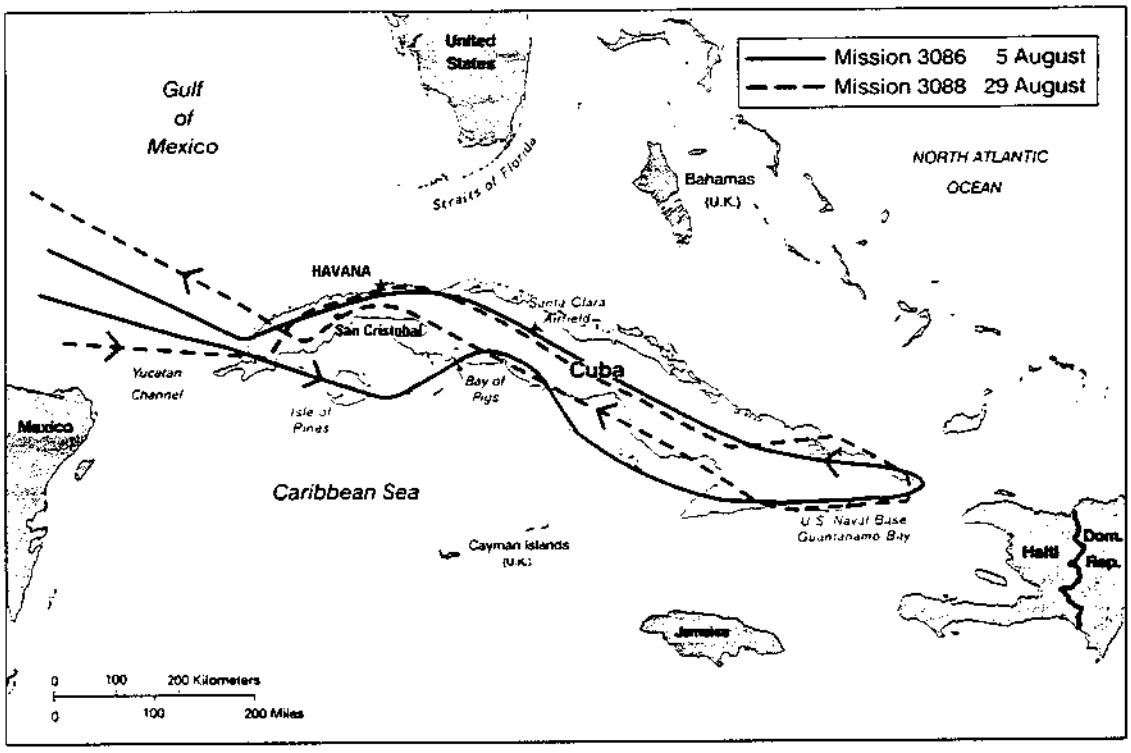
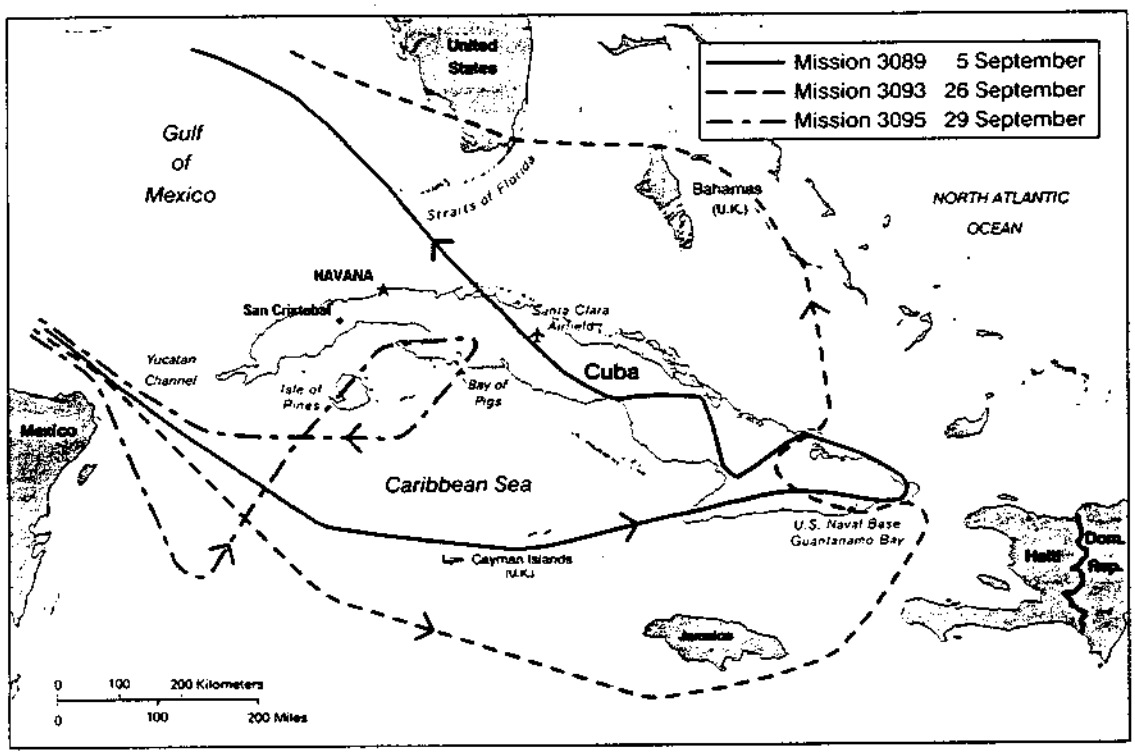
U-2 Overflights of Cuba, August - October 1962





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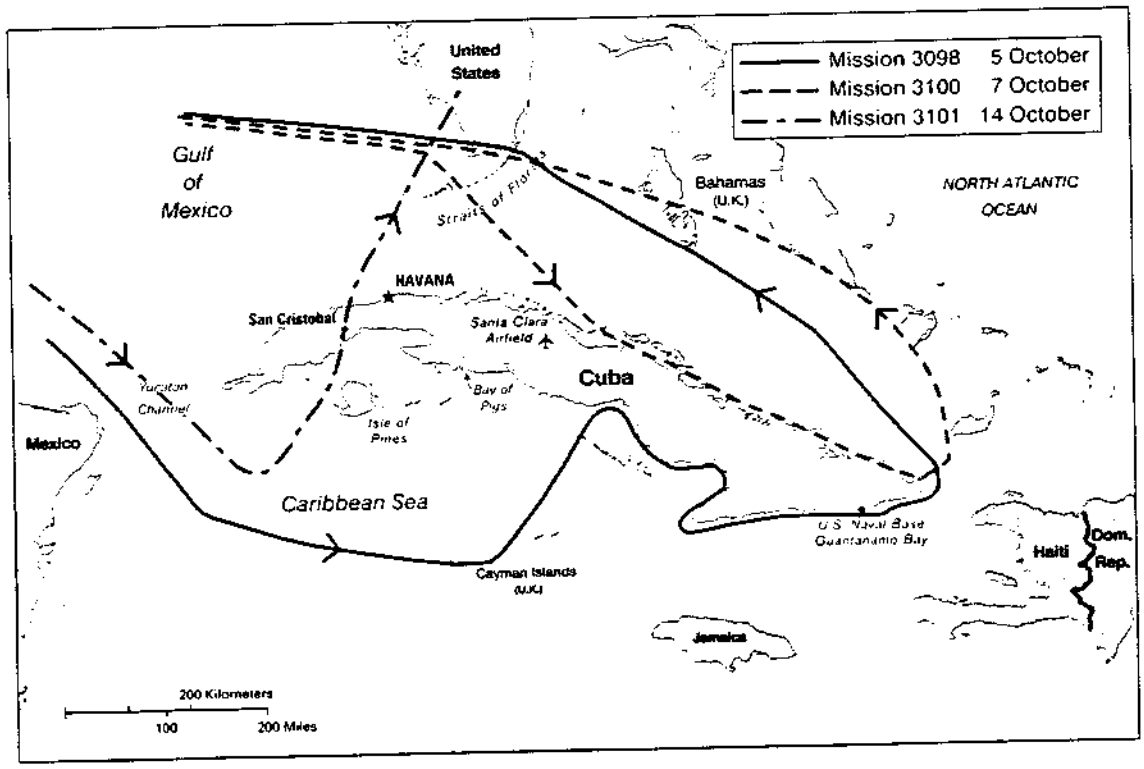

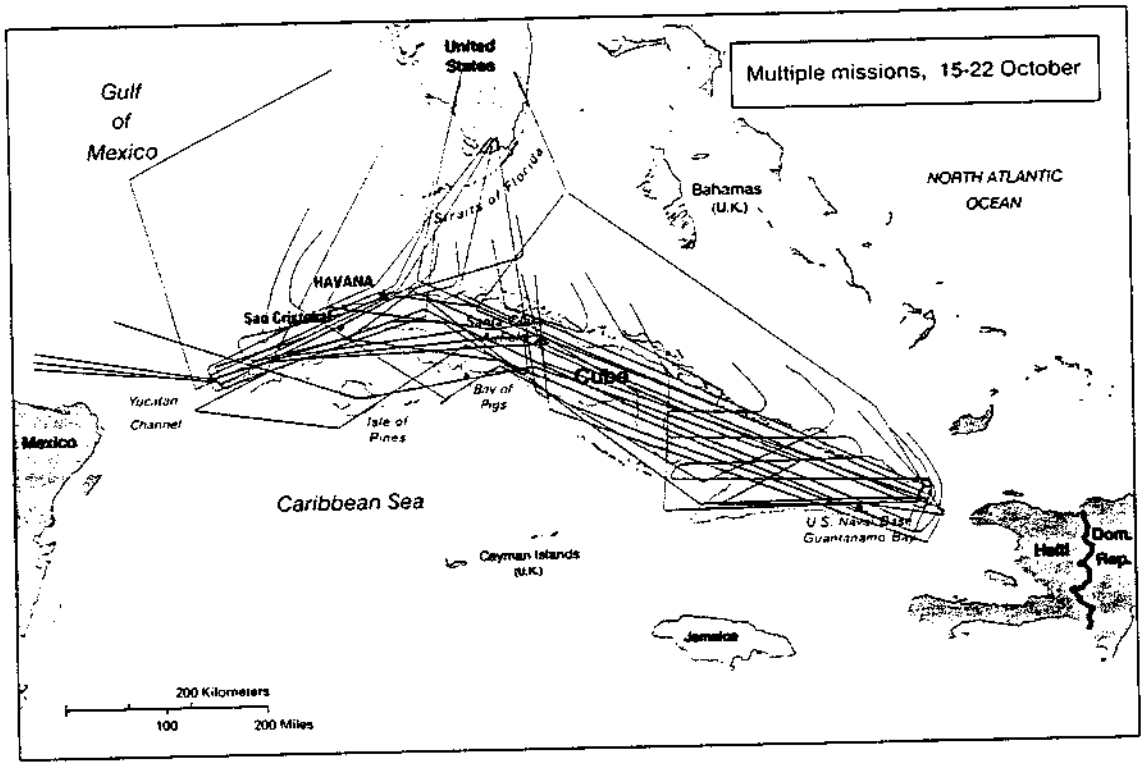

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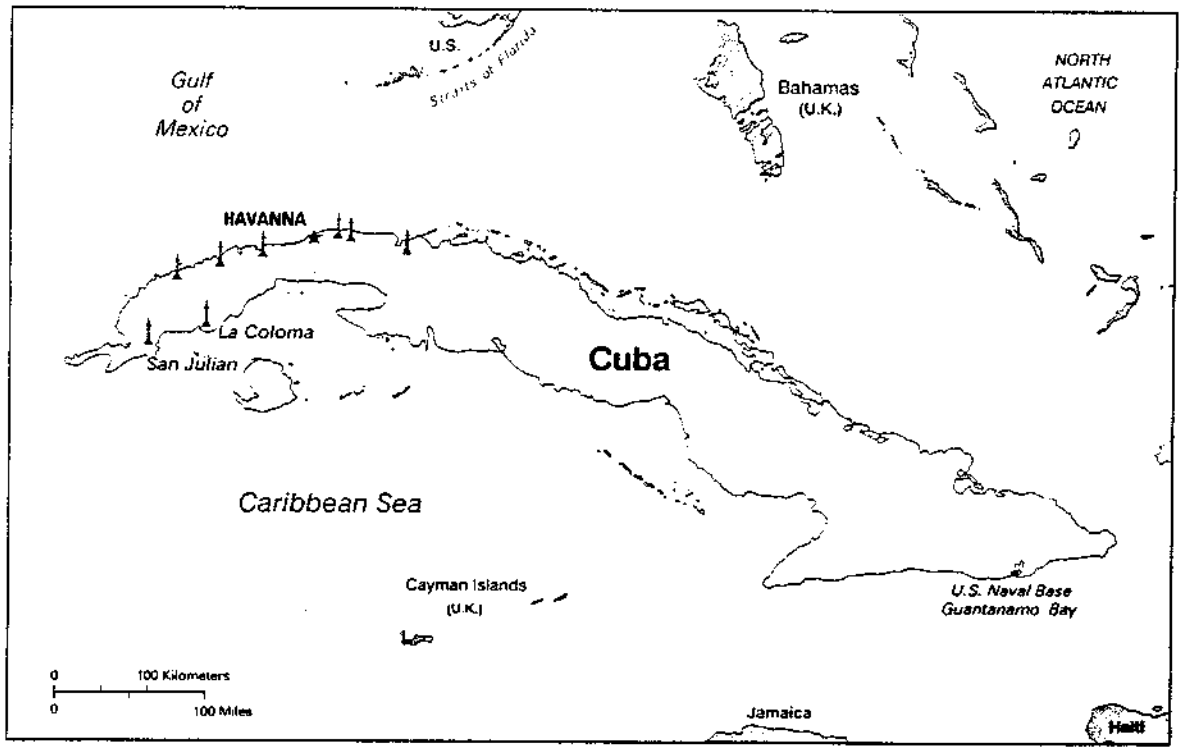
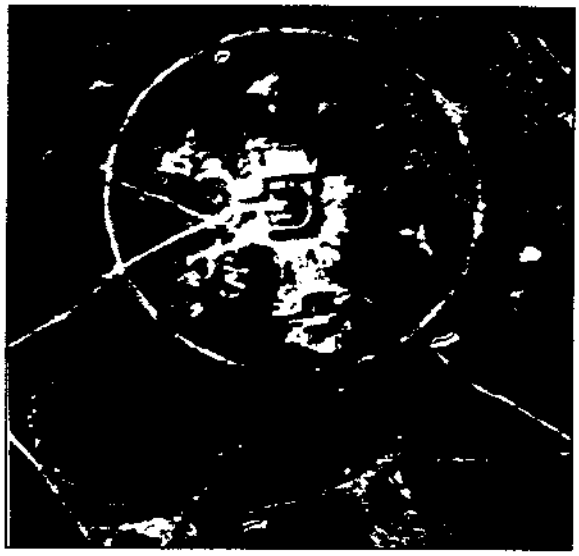
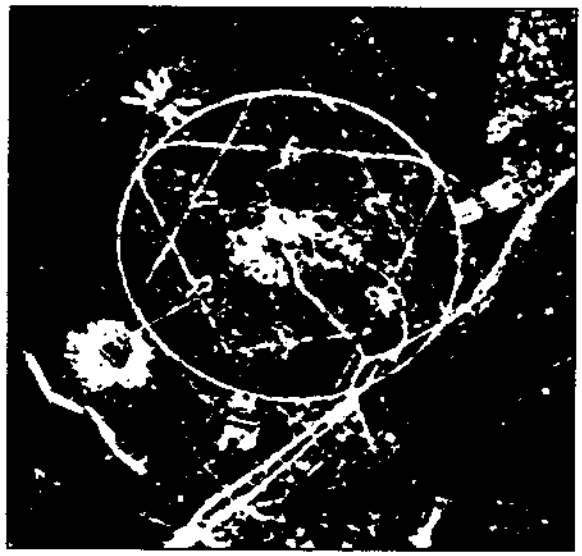
SAM Sites in Cuba, August 1962





San Julian Airfield



La Coloma

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overflights of Cuban territory. He argued that the loss of an aircraft on a mission that combined both types of flights would make it difficult for the United States to stand on its rights to fly over international waters. Bundy and Carter therefore agreed to split the proposed reconnaissance program into four missions: two overflights and two peripheral flights, all planned for maximum safety. The overflights were thus designed to be quick "in-and-out" operations across the narrow width of the island instead of flights along the entire length of Cuba, as had been the case previously. (As the map on page 202 illustrates, the 5 September mission was the last one to fly along the length of the island.) As an additional precaution, flightpaths would be laid out to avoid known SAM sites. Although these changes greatly reduced the danger to the U-2, they slowed the gathering of information on the Soviet buildup by reducing each mission's coverage.[9]

To ensure that the photographs taken by these missions were of the highest quality, the CIA decided to conduct flights only when the weather along the flight routes was less than 25 percent overcast. Weather proved to be a major problem during the month of September. Unfavorable forecasts (along with a brief standdown of U-2 overflights after the loss of the Nationalist Chinese U-2) prevented the launching of any missions from 6 through 16 September. Moreover, when mission 3091 finally flew on 17 September, the favorable weather forecast proved inaccurate and heavy clouds prevented the mission from obtaining usable photography. Bad weather continued to rule out missions until 26 September, when mission 3093 covered eastern Cuba and found three additional SAM sites. Three days later mission 3095 flew over the Isle of Pines and Bay of Pigs area, finding one more SAM site and a coastal-defense cruise missile site.[10]

The cautious series of U-2 flights in September had turned up many more SAM sites but no concrete evidence of the presence of surface-to-surface missiles. Growing impatient with the restrictions

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[9] Lehman Report, pp. 12-13 (TS Codeword).

[10] DCI John A. McCone, Memorandum for the Record, "U-2 Overflights of Cuba, 29 August through 14 October 1962," 27 February 1963, DCI records, job 80-B-1676R, box 17, folder 18 (S). Although this DCI memo states that "the delay in completing the photographic coverage was due solely to the unfavorable weather predicted during this period," a more contemporary COMOR memo reported a standdown of U-2 overflights until 16 September as a result of the loss of mission No. GRC-127 over China on 8 September. Memorandum for DDCI Carter from James Q. Reber, Chairman, COMOR, "Historical Analysis of U-2 Overflights of Cuba," 24 October 1962, IC Staff, COMIREX records, job 33-B-122A, box 1, "Cuba Requirements, 1961-63" (TS Codeword).

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that had been placed on U-2 overflights of Cuba, DCI McCone told the Special Group on 4 October 1962 that their policy of avoiding SAM sites had restricted the Agency to using the U-2 only in Cuba's southeastern quadrant. He questioned "whether this was a reasonable restriction at this time, particularly since the SAM's were almost certainly not operational."[11] The Special Group then requested the preparation of an overall program for reconnaissance of Cuba in time for its next meeting on 9 October.

In the meantime, CIA U-2s continued the reconnaissance program that the Special Group had approved in September. In early October two peripheral missions—3098 along the southeastern coast on 5 October and 3100 along the northern coast on 7 October (see map on page 203)—discovered an additional five SAM sites. This brought the total to 19, but there was still no evidence of surface-to-surface missiles.

Evidence was mounting that the portion of Cuba that the September and early October missions had avoided was the most likely location for Soviet medium-range ballistic missiles (MRBMs). On 6 October 1962, the Committee on Overhead Reconnaissance recommended frequent and regular coverage of Cuba, pointing in particular to the need for renewed coverage of western Cuba:

> *The absence of coverage of the western end since August 29, coupled with the rate of construction we have observed, means that there may well be many more sites now being built of which we are unaware. Ground observers have in several recent instances reported sightings of what they believe to be the SS-4 (SHYSTER) MRBM in Cuba. These reports must be confirmed or denied by photo coverage.*[12] *Attached to this memorandum was a list of targets, with the area around San Cristobal at the top.*

On 9 October the Special Group met to discuss COMOR's recommendations, the most important of which was a U-2 flight over the "suspect MRBM site as soon as weather permits." This mission was also designed to pass over one of the SA-2 sites that was thought to be most nearly operational in order to determine the status of SA-2

[11] Minutes of the Special Group meeting, 4 October 1962, in Memorandum for DCI McCone from J. S. Earman, Inspector General, "Handling of Raw Intelligence Information During the Cuban Arms Buildup," 20 November 1962, DCI records, job 80-B-1676R, box 17 (TS Codeword).

[12] Lehman Report, p. 30 (TS Codeword).

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defenses of Cuba. If this overflight did not provoke an SA-2 reaction, the study recommended "maximum coverage of the western end of the island by multiple U-2s simultaneously."[13] Because the danger posed by the SA-2 sites was one of the major topics at the Special Group meeting, DCI McCone brought along Col. Jack C. Ledford (USAF), head of the Office of Special Activities, who presented a vulnerability analysis that estimated the odds of losing a U-2 over Cuba at 1 in 6. The Special Group approved the recommended flight over San Cristobal.

As the Special Group meeting was breaking up, Deputy Secretary of Defense Roswell Gilpatric and the Air Force representative questioned the adequacy of the Agency's cover story, which was that its pilots were Lockheed employees on a ferry flight to Puerto Rico. The Air Force and DOD representatives argued that it would be better to use Air Force pilots and state in the event of a mishap that the overflight was a routine Air Force peripheral surveillance mission that had gone off course. McCone then asked Colonel Ledford's opinion of the proposed change. Ledford agreed that the DOD cover story was better but pointed out that the SAC U-2s were much more vulnerable than those of the Agency, which had superior electronic countermeasures and a higher maximum altitude. Ledford then suggested that Air Force pilots use Agency aircraft after receiving familiarization training. After leaving the Special Group meeting, McCone and Gilpatric met with President Kennedy, who approved the San Cristobal mission and the use of Air Force pilots.[14]

Two days later (11 October), Air Force and CIA representatives met to discuss the change in cover stories. Herbert Scoville, CIA Deputy Director for Research, agreed that in the long run the Air Force cover story was best but emphasized that an Air Force pilot should not be used until he had received adequate training. The conversation then turned to the issue of who would run the next mission, the CIA or the Air Force. Strongly favoring Air Force control of the U-2 missions over Cuba, the DOD representatives called DCI McCone and obtained his consent. Shortly thereafter, McCone left

[13] Ibid., p. 31 (TS Codeword).

[14] Brig. Gen. Jack C. Ledford, USAF Ret., interview by Gregory W. Pedlow, Washington, DC, 20 February 1987 (S); Memorandum for DCI McCone from Herbert Scoville, Jr., Deputy Director (Research), "The Chronology of Events Leading to the Transfer of Cuban Overflight Responsibility," 28 February 1963, DCI records, job 80-B-1676R, box 17, folder 18 (S).

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DDCI Marshall S. Carter

Washington for California and did not return until 14 October. Air Force control of the Cuban overflights became official on 12 October, when President Kennedy transferred "responsibility, to include command and control and operational decisions, with regard to U-2 reconnaissance overflights of Cuba" from the CIA to the Department of Defense.[15] The Air Force then asked to borrow two of CIA's U-2Cs.

The Acting DCI, Lt. Gen. Marshall S. Carter, US Army, reacted strongly to the Air Force takeover of a major CIA operation. At one point he remarked, "I think it's a hell of a way to run a railroad. It's perfectly obviously a geared operation to get SAC in the act."[16] In a series of conversations with high-ranking Air Force and administration officials, Carter argued against changing command and control of the flights at such a crucial time. The Agency operation, Carter pointed out, was already in place and working well, whereas the Air Force lacked experience in controlling U-2 overflights, particularly with the U-2C, which was not in the Air Force inventory. Carter also emphasized that Air Force pilots lacked experience with the more powerful J75 engines in the U-2C. He told Roswell Gilpatric, "To put in a brand new green pilot just because he happens to have on a blue suit and to completely disrupt the command and control and communication and ground support system on 72 hours' notice to me doesn't make a God damn bit of sense, Mr. Secretary."[17] DDCI Carter admitted that the Air Force's cover story was probably better than the CIA's but suggested at one point, "Let's take one of my boys and put him in a blue suit."[18] Realizing, however, that the pilot would probably have to come from the Air Force, Carter concentrated his efforts on trying to convince DOD and administration officials to conduct an orderly transition by allowing the CIA to continue its operation for a few weeks using an Air Force pilot, and the Air Force gradually taking over command and control. Carter's efforts were in vain. The Air Force insisted on immediate control of the operation, and administration officials were unwilling to become involved in what they

[15] Memorandum for DCI McCone from McGeorge Bundy, "Reconnaissance Overflights of Cuba," 12 October 1962, DCI records, job 80-B-1676R, box 17, folder 18 (TS).

[16] Telephone conversation between DDCI Carter and McGeorge Bundy, 13 October 1962, DCI records, job 80-B-1676R, box 17, folder 18 (TS Codeword).

[17] Telephone conversation between DDCI Carter and Roswell Gilpatric, 12 October 1962, DCI records, job 80-B-1676R, box 17, folder 18 (TS Codeword).

[18] Telephone conversation between DDCI Carter and Gen. William McKee, 12 October 1962, DCI records, job 80-B-1676R, box 17, folder 18 (TS Codeword).

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perceived as a jurisdictional dispute. Presidential Assistant for National Security Affairs McGeorge Bundy told DDCI Carter that "the whole thing looks to me like two quarreling children."[19] Furthermore, no one wanted to speak out against a decision that the President had already made.

Once the decision was clearly irrevocable, the Agency gave its complete support to the Air Force in preparing for the upcoming overflight. A SAC U-2 pilot had already arrived unannounced at the CIA's U-2 Detachment at Edwards Air Force Base on 11 October, and the CIA U-2 detachment put him through a hasty training program to familiarize him with the U-2C. By Sunday, 14 October 1962, the weather over Cuba had cleared, and the first SAC overflight of the island took place.

When the U-2 returned, its film was rushed to the National Photographic Interpretation Center. By the evening of 15 October, photointerpreters had found evidence of the presence of MRBMs in the San Cristobal area. NPIC Director Arthur Lundahl immediately notified DDI Ray Cline, who in turn notified DDCI Carter (DCI McCone had again left town). As the readout progressed and the evidence became firmer, the DDI notified National Security Adviser Bundy and Roger Hilsman of the Department of State's Bureau of Intelligence and Research, who informed Secretary of State Dean Rusk. On the following morning, 16 October, DDCI Carter briefed the President on the results of the 14 October mission.[20]

Now that the presence of Soviet medium-range surface-to-surface missiles in Cuba had been confirmed, the rules for U-2 mission approval changed. The Strategic Air Command received blanket approval to fly as many missions as needed to cover Cuba completely, without again consulting the Special Group. During the week that followed the discovery of the missiles, SAC U-2s conducted multiple missions each day (see map on page 203). U-2 photography was supplemented by low-level photography taken by high-performance Navy and Air Force aircraft. Throughout the remainder of the Cuban Missile Crisis, the Agency's U-2 pilots remained idle, but the photointerpreters at NPIC did yeoman service in studying the

[19] Telephone conversation between DDCI Carter and McGeorge Bundy, 12 October 1962, DCI records, job 80-B-1676R, box 17, folder 18 (TS Codeword).

[20] For a more detailed account of NPIC's discovery of the Soviet missiles in Cuba, see Dino Brugioni, *The Cuban Missile Crisis—Phase I, 29 August–16 October 1962*, DDS&T Historical Series, NPIC-1 (CIA: NPIC, 1971) (S).

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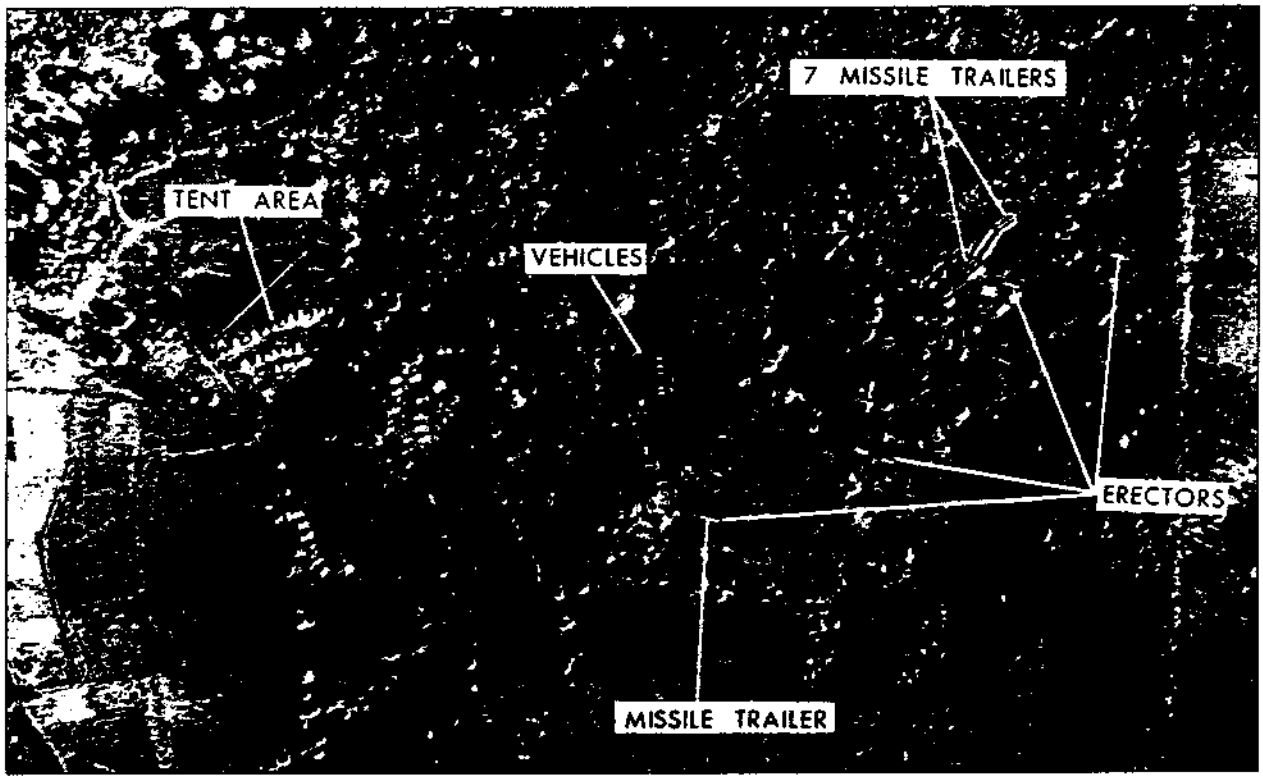

Soviet MRBM site in Cuba, 1 October 1962

thousands of feet of film returned by Air Force and Navy reconnaissance aircraft. President Kennedy used NPIC photographs to illustrate his address to the nation on 22 October 1962, when he revealed the Soviet missile buildup in Cuba and declared his "naval quarantine" to prevent the shipment of offensive weapons to Cuba.

On 27 October, at the height of the crisis, one of the U-2Cs lent by the Agency to the Air Force was shot down over Cuba, killing the pilot, Maj. Rudolph Anderson. This loss again illustrated the U-2's vulnerability to the SA-2 missile. Nevertheless, SAC U-2 overflights continued, both during and after the crisis. Responsibility for photographic coverage of Cuba remained with the Air Force; Agency pilots never flew another mission over the island.

Although SAC carried out most of the U-2 activity during the Cuban Missile Crisis, the Agency's U-2 missions had made vital contributions during the initial stages of the crisis. In all, Project IDEALIST pilots had spent 459 hours overflying Cuba during 1961 and 1962. They had provided concrete evidence of the Soviet buildup on the island, evidence that was simply not available through any

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other means. Although by late 1962 photographic satellites had become an integral part of the overhead collection program, only U-2s could provide the highly detailed photography that photointerpreters needed to spot the early stages of work on missile sites. Attempts had been made to photograph Cuba with satellites, but to no avail because the satellites' normal orbits placed them over Cuba at the wrong time of day, after clouds had formed.

U-2s Over South America

Agency U-2s again conducted operations in the Western Hemisphere in December 1963. The Directorate of Plans had requested photographic coverage of Venezuela and neighboring British Guiana because of guerrilla activities conducted by a pro-Castro movement inside Venezuela. Supplies for this movement appeared to be coming across the border from British Guiana. On 30 November 1963, the NSC Special Group approved overflights of the British Guiana–Venezuela border to determine the scope and rate of buildup of guerrilla forces. The Special Group stipulated that the entire effort was to be conducted without the knowledge of either the British or the Venezuelans.

Within three days, several Detachment G aircraft and pilots deployed to Ramey AFB, Puerto Rico, from which they made six flights over the border areas between 3 and 19 December 1963 in an operation known as SEAFOAM. The results of the effort were inconclusive, and the task force returned to Edwards AFB on 22 December.[21]

U-2 OPERATIONS IN ASIA

Detachment C and the Indonesian Revolt of 1958

U-2 operations in Asia began even before the end of overflights of the Soviet Bloc. By 1958 the Eisenhower administration, although very reluctant to approve U-2 flights over or near Soviet and East European borders, was not averse to using the spyplanes in the Third World, where radar detection was unlikely. Thus, in the spring of 1958, Agency U-2s from Detachment C conducted a major reconnaissance effort over Indonesia, Operation ROBIN HOOD.

[21] *OSA History*, chap. 16, pp. 35-36 (TS Codeword).

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Long unhappy with President Achmed Sukarno's perceived sympathy to Communism and his institution of "guided democracy" in Indonesia, the CIA, after consultation with the State Department, began in early 1957 to supply financial assistance to a group of dissident Indonesian Army officers on the island of Sumatra. By 25 September 1957, the National Security Council had become concerned with the course of events in Indonesia and on its recommendation President Eisenhower authorized the Agency to "employ all feasible covert means" to support the dissidents. Planning for increased aid of all types began immediately, and in January 1958 a US arms shipment for the dissidents arrived in Sumatra. Then on 10 February, the situation came to a head. While Sukarno was out of the country on a state visit to Japan, the dissident army colonels, without consulting CIA, organized a Revolutionary Council in Padang, West Sumatra, and demanded the abolition of President Sukarno's "guided democracy." Five days later, this council proclaimed itself the new "Revolutionary Government" of Indonesia. President Sukarno's armed forces responded swiftly to this threat. In late February the Indonesian Air Force began bombing dissident strongholds, and by mid-March government forces were conducting an all-out air-sea-land drive against the rebel-held areas in central Sumatra. Although the Sumatran rebels were falling back, additional unrest broke out over 1,800 miles away in the islands of Celebes (Sulawesi), and CIA quickly began supplying weapons to these dissidents, too.[22]

Increasingly involved in Indonesia, the Agency urgently needed accurate information on the situation there. As in previous crises, U-2s flew reconnaissance missions. On 24 March 1958, the Development Projects Staff moved the entire complement of Detachment C's pilots and planes from Japan to a base more easily accessible to Indonesia: Cubi Point Naval Air Station in the Philippines. Cubi Point was far from any facility that could develop and interpret the U-2 photographs, so two Photo-Intelligence Division employees went to Clark Airfield, just 30 minutes by air from Cubi Point, to establish a forward processing center. They arrived on 28 March and had the photo lab ready to go on the following day.[23]

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[22] [redacted] *Covert Support to Indonesian Revolutionary Government, 1957-1958*, 2 vols., Clandestine Service Historical Series, CSHP-53 (CIA: History Staff, 1970) (S); John Prados, *Presidents' Secret Wars: CIA and Pentagon Covert Operations Since World War II* (New York, William Morrow: 1986), pp. 133-144.

[23] *OSA History*, chap. 15, pp. 25-26 (TS Codeword).

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The first U-2 mission over Indonesia took place on 28 March 1958. By 12 June, when the operation was phased out, Detachment C U-2s had flown 30 missions over the major islands of Indonesia. Sanitized photos from these missions were used to brief members of the DDP's Covert Action Staff (CAS), who were in charge of a small force of World War II–vintage aircraft such as P-51s and B-26s used to support the rebel troops. The CIA's proprietary, Civil Air Transport, supplied the aircraft, which were based on the Indonesian island of Morotai and flown by mercenary pilots. Desperately short of pilots, the CAS asked if some of the U-2 pilots with experience in World War II aircraft could be detailed to the Morotai effort. Although such a request represented an improper use of the highly trained U-2 pilots and posed a potential threat to the entire U-2 program if one of them were captured, Richard Bissell agreed to send pilots James Cherbonneaux and Carmine Vito to help. Both were experienced with World War II aircraft, although Vito had never flown the rebels' fighter aircraft, the P-51 Mustang. After arriving on Morotai, Cherbonneaux explained to Vito how to fly the fast and powerful Mustang while the two were sitting at a makeshift bar on the edge of the airfield.

Several days later, when Cherbonneaux was off the island on another mission, a flight of Indonesian twin-engine bombers of Czechoslovak manufacture was spotted making its way toward the island. Exclaiming, "I'm not going to sit around and wait to be bombed," Vito had a Filipino mechanic start up a P-51 sitting on the tarmac. In his first and only flight in a P-51, Vito managed to get the plane off the ground. Once he was airborne and turned in the direction of the lumbering bombers, they all took flight in as many directions as there were aircraft. After firing a few . 50-caliber rounds in the direction of the closest bomber, Vito circled the field and landed the aircraft safely.[24]

Agency efforts in support of the rebel government proved fruitless. By early May, Central Government forces had taken most of the remaining rebel strongholds, and the Sumatran rebellion was deteriorating into small-scale guerrilla activity. Then on 18 May, an American mercenary pilot, Allen Lawrence Pope, was shot down on a bombing mission over Ambon Island. Pope's capture ended Allen Dulles's enthusiasm for the effort, and President Eisenhower also

[24] Information supplied by Carmine Vito and James Cherbonneaux to Donald E. Welzenbach, May 1986.

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wanted no more part of it. The US Government rapidly withdrew its support, and the remaining remnants of the rebellion collapsed. Four years later, the Indonesians freed Pope after Attorney General Robert Kennedy personally appealed to President Sukarno.

When the revolt ended, the U-2s returned to Atsugi. On the way back, one of the planes, which was equipped with a System-V electronic intelligence unit, flew along the coast of China to gather data on Communist Chinese radars.[25]

China Offshore Islands Dispute of 1958

During the summer of 1958, tension between the People's Republic of China and Nationalist China (Taiwan) increased to such an extent that on 18 June Detachment C mounted a U-2 mission to film the Chinese mainland coast and adjacent island areas. On 11 August, People's Liberation Army (PLA) artillery began bombarding the offshore islands of Quemoy and Little Quemoy, where the Nationalists had stationed large numbers of troops to ward off any invasion. On 23 August the Communists increased the shelling. After five days of intense bombardment, which made resupply of the islands from Taiwan impossible, the PLA commander ordered the Nationalist garrisons to surrender, intimating that an invasion was imminent. The Nationalists refused to surrender and received support from the United States in the form of warships from the 7th Fleet, which began escorting Nationalist ships carrying supplies to the beleaguered garrisons.

During this period, Detachment C U-2s flew four missions over the mainland, searching for troop movements that would indicate that the PRC was planning to invade the islands. Photos from these missions showed no evidence of a PRC buildup, but the atmosphere in the region remained tense. Detachment C U-2s flew two more missions (9 September and 22 October) to monitor PRC troop movements and again found no indications of preparations for an invasion. The Offshore Islands Crisis receded in late October 1958 after the PRC learned that it would not receive support from the Soviet Union if the crisis escalated into a confrontation with the United States.[26]

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[25] Mission folder 1773, (10 June 1958), OSA records, job 67-B-328, box 7 (TS Codeword); *OSA History*, chap. 15, pp. 25-26 (TS Codeword).

[26] *OSA History*, chap. 15, p. 27 (TS Codeword).

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While the Offshore Islands Crisis was still in progress, Detachment C began conducting flights in support of its weather reconnaissance cover story. On 14, 15, and 16 July 1958, U-2s flew high above Typhoon Winnie, which was causing great damage on Taiwan. These missions provided the first photography ever obtained of such a massive storm system. Photographs of the storm were the subject of articles in the magazine *Weatherwise* and the 21 July edition of *Aviation Week*. In September, Detachment C aircraft photographed two more typhoons.

U-2 Support for DDP Operations in Tibet

The consolidation of all Agency air activities under the DDP in 1959 led to increased involvement of the U-2 program with clandestine efforts against Communist governments. One important area of DDP activity during this period was Tibet. In March 1959, the PLA suppressed an uprising against the Chinese occupation of Tibet, and several thousand Tibetans fled the country along with their spiritual leader, the Dalai Lama. Afterward, Agency operatives from the DDP's Far East Division began training some of these Tibetan refugees for paramilitary operations inside Tibet. Once the Tibetans completed their training, FE Division planned to parachute them back into Tibet. Such missions, however, required detailed maps and aerial photographs of the areas of operation. Richard Bissell, therefore, obtained permission from the President to use Detachment C U-2s to provide the necessary photography.

Operation MILL TOWN, as the reconnaissance missions over Tibet were known, consisted of two missions staged from Cubi Point Naval Air Station on 12 and 14 May 1959. The photography revealed that Communist China had built new roads with supply and defense points. Agency photointerpreters also discovered two large new airfields at elevations above 13,000 feet. Later in the year, the Far East Division needed photographs and maps of another area of Tibet. To conceal the target of this new operation, which was codenamed SOUTH GATE, the Development Projects Division planned and flew a total of six missions covering much of Southeast Asia—Vietnam, Laos, Cambodia [redacted]—as well as the desired area in Tibet. Only four of the missions involved the area of operational interest. Five of the flights took place between 29 August and 9 September, and one additional flight (Operation QUICK KICK) followed on 4 November. All of these missions were "Fast Move" operations in which necessary supplies and personnel flew to a remote staging area in a C-130, where they rendezvoused with a U-2 that had been ferried

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U-2 photography of Typhoon Winnie, July 1958

in. The staging base in this case was Ta Khli, Thailand. These flights did not go unnoticed; on 13 September 1959, Hong Kong's *China Post* published a story headlined "U-2 of USAF Said Reconnoitering Red China at Unreachable Altitude." [27]

U-2Cs for Detachment C

Late in 1958, Lockheed began refitting the Agency's 13 remaining U-2s with the more powerful Pratt & Whitney J75/P-13 jet engine. The first of these U-2Cs arrived at Detachment C in the summer of 1959. During a test flight of this aircraft (article 360) on 24 September 1959, the pilot decided to set a new altitude record.

[27] Ibid., chap. 18, pp. 6-7, 12; chap. 15, p. 29 (TS Codeword).

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Lhasa, Tibet, November 1959

Although the plane was equipped with a camera, it carried no film and did not have a full load of fuel, which made it considerably lighter than an operational U-2C. As a result, the plane reached 76,400 feet—the highest altitude achieved by any of the original U-2 aircraft. In the process, however, the aircraft consumed more fuel than was called for in the test flight plan, causing the engine to flame out during the return to base. The pilot then made an emergency wheels-up landing at a glider-club strip near Fujisawa, south of Atsugi.

The crash did not cause any injuries or serious damage to the aircraft, but it did bring unwanted publicity to the U-2 program. Much of the publicity resulted from the actions of Detachment C's security unit, whose conspicuous Hawaiian shirts and large pistols drew the

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attention of Japanese reporters. One reporter even flew over the area in a helicopter, taking pictures of the U-2. These photographs appeared in many Japanese newspapers and magazines.[28]

U-2 Crash in Thailand

Flights by Detachment C U-2s over Tibet and western China continued during the first half of 1960 under Operation TOPPER. The first mission on 30 March was very successful. The second mission on 5 April took good photographs but encountered mechanical problems. At the start of the mission, the landing-gear doors failed to close completely, resulting in increased drag and higher fuel consumption. With no fuel gauge to warn the pilot of the critical fuel situation, the aircraft ran out of fuel far short of Ta Khli, forcing the pilot to make a crash landing in a rice paddy. The area was inaccessible to large vehicles, and the plane, article 349, had to be cut into pieces in order to remove it. With the help of local villagers, the retrieval team dissassembled the aircraft for transport to the base, where the pieces were loaded onto a C-124 under cover of darkness. The crash and subsequent recovery of the U-2 did not attract the attention of the press; there was only one report in a local Thai newspaper, which simply referred to the crash of a jet plane. In appreciation for the assistance provided by the villagers, [redacted] gave the headman funds to build a new school.[29]

End of Detachment C Operations

The loss of two aircraft in slightly more than six months left Detachment C with just two aircraft. Fortunately, the level of mission activity remained low because Detachment C was no longer conducting overflights of the Soviet Union.

One important remaining mission was high-altitude air sampling (HASP), in which specially equipped U-2s gathered upper-altitude air samples to look for evidence of Soviet nuclear testing. The direction of the prevailing winds made Detachment C ideally situated for this activity, which began in the fall of 1958 and continued in 1959. In late April 1960, Detachment C was preparing to stage to the Philippines to conduct additional air-sampling missions, when the loss of Powers' U-2 temporarily halted all U-2 activities.

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[28] Ibid., chap. 15, p. 30 (TS Codeword).

[29] Ibid., chap. 15, pp. 32-33 (TS Codeword).

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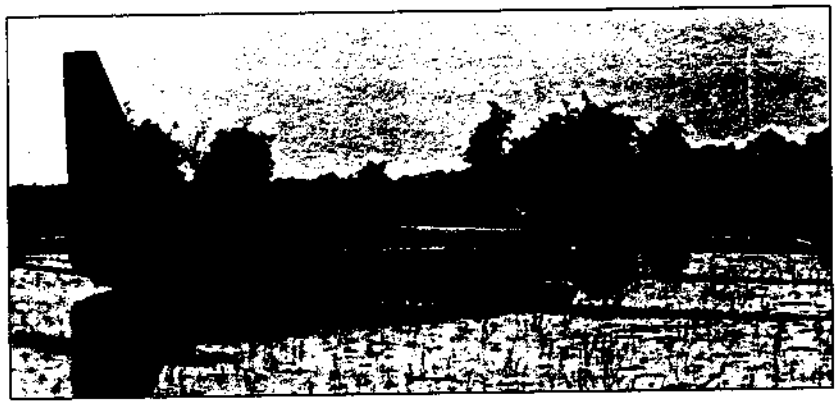

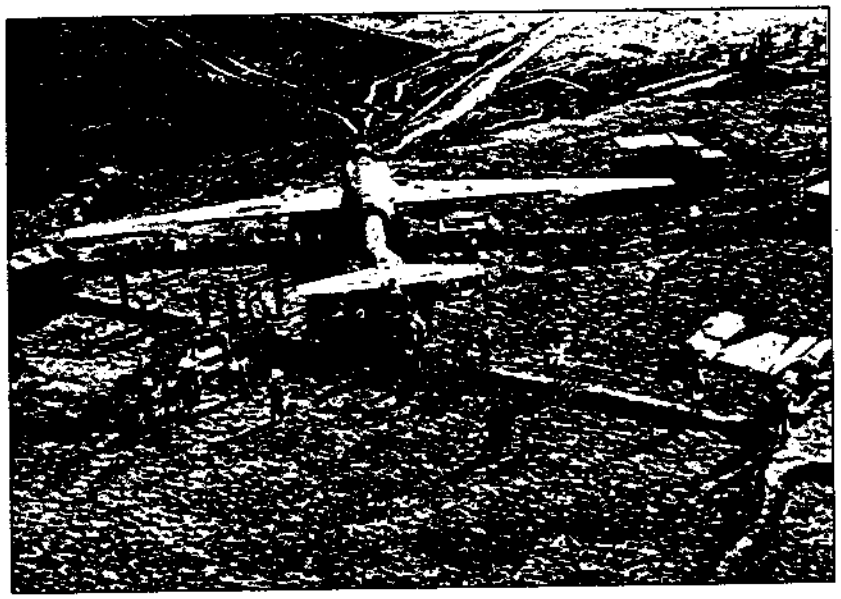

Recovery of Article 349, April 1960

The publicity generated by the U-2 incident stirred considerable controversy in Japan, and there were soon demonstrations against the continuing presence of U-2s in Japan. On 6 June 1960, project headquarters decided on a phased-out withdrawal of Detachment C between 15 July and 1 September, but this timetable had to be accelerated when the Japanese Government formally requested the removal of the U-2s on 8 July.[30]

[30] Ibid., chap. 15, pp. 33-36 (TS Codeword).

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Detachment G Missions Over Laos and North Vietnam

In the aftermath of the Powers loss, both of the overseas U-2 detachments returned to the United States and their aircraft and personnel were incorporated into Detachment G at Edwards Air Force Base in California. This detachment was now responsible for providing coverage in Asia, and its first mission came in Laos. After the neutralist Laotian Government of Souvanna Phouma collapsed in early December 1960, reports began circulating that leftist antigovernment forces were using Soviet arms. Then on 30 December, a new Laotian Government appealed for UN aid against what it said was an invasion from North Vietnam and possibly Communist China. Alarmed over the possibility of the civil war expanding because of the introduction of foreign troops, the Eisenhower administration ordered Detachment G to gather more information on the events in Southeast Asia.

Five Detachment G pilots and planes were ferried to Cubi Point Naval Air Station in the Philippines to conduct an operation known as POLECAT. During the period 3 to 18 January 1961, these U-2s made seven flights over Laos and North Vietnam. To search for the reported foreign troops, these missions concentrated on the lines of communications leading into Laos from North Vietnam and China. In addition, the U-2s scanned North Vietnamese airfields for Soviet aircraft to determine the magnitude of the airdrop operation allegedly supporting the Pathet Lao troops. NPIC sent photointerpreters to Clark Air Force Base in the Philippines to obtain an immediate readout of the results of each mission. The photography did not substantiate the Laotian claims, and on 26 January the Laotian Government retracted its charges of a foreign invasion. Detachment G's U-2s returned to California in early February 1961.[31]

During the final stages of Operation POLECAT, there was a major threat to the security of the mission. The film from the flights made on 16 and 18 January had been sent to the United States for duplicate processing. Afterward the film was put aboard an Agency C-47 on 14 March to ferry it to Washington. During the flight one of the aircraft's engines failed, forcing the crew to jettison 43 boxes of highly classified film over mountainous terrain around Williamsport, Pennsylvania, to keep the craft airborne. After making an emergency

[31] Ibid., chap. 16, p. 17 (TS Codeword).

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landing at the Scranton-Wilkes-Barre Airport, the pilot reported the incident to Headquarters. The Office of Security immediately contacted the Pennsylvania State Police, who sealed off the wooded area. Agency security officers soon arrived to search for the boxes. They recovered all 43 containers; not one had broken.[32]

Detachment G's only other activity during the summer of 1961 was a solitary overflight of North Vietnam, known as Operation EBONY. In preparation for this mission, a U-2 deployed to Cubi Point on 13 August 1961. Two days later it successfully conducted the overflight and subsequently returned to the United States.[33]

New Detachment on Taiwan

Long before the Nationalist Chinese became involved in the U-2 program, they were flying covert reconnaissance missions for the CIA. In 1952 the CIA began recruiting Nationalist Chinese crews to replace US personnel from the proprietary firm Civil Air Transport, who had been flying Agency aircraft to drop leaflets, agents, and supplies over the Chinese mainland. This project (BGMARQUE) also provided photographic coverage of the rail line from Shanghai to the border with French Indochina. CIA-sponsored aerial reconnaissance over the mainland increased substantially in 1955 with the establishment of Project STPOLLY, which used Agency aircraft with Nationalist Chinese crews to gather Signals Intelligence (SIGINT) and conduct psychological warfare against the People's Republic of China. At first the SIGINT equipment was installed in World War II–vintage aircraft such as PB-4Ys and B-17s, but in 1958 the project received a new aircraft procured covertly by the Agency from Lockheed, the P2V7, with an extremely sophisticated airborne SIGINT system. STPOLLY added the more advanced Lockheed P3A in 1963. Between 1955 and 1967, when the CIA terminated the project, STPOLLY conducted 399 overflights of the People's Republic of China, losing a total of eight aircraft and crews.

In addition to CIA-sponsored aerial reconnaissance projects, the Nationalist Chinese Air Force had its own reconnaissance capability with US-supplied RB-57 aircraft. In 1958 the US Air Force proposed

[32] Ibid., chap. 7, p. 24 (TS Codeword).

[33] Ibid., chap. 16, p. 18 (TS Codeword).

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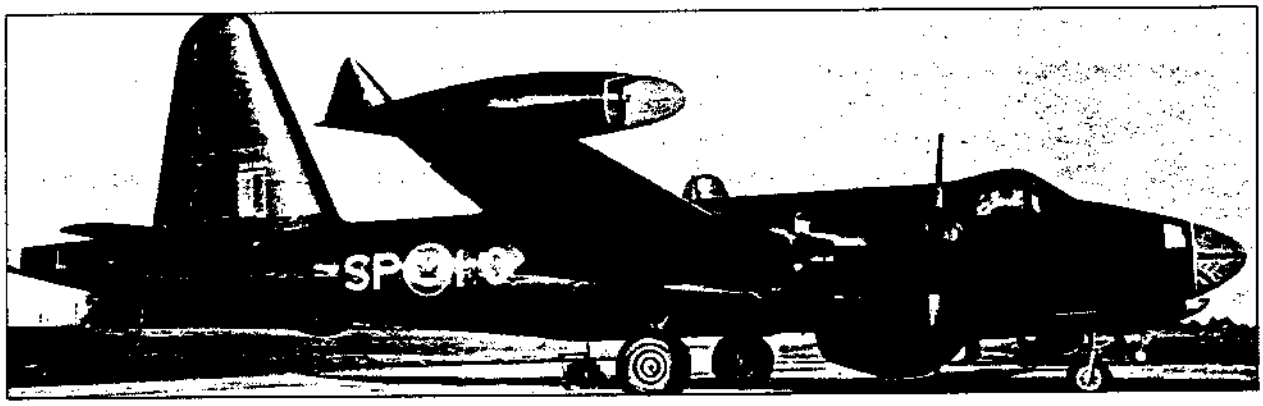

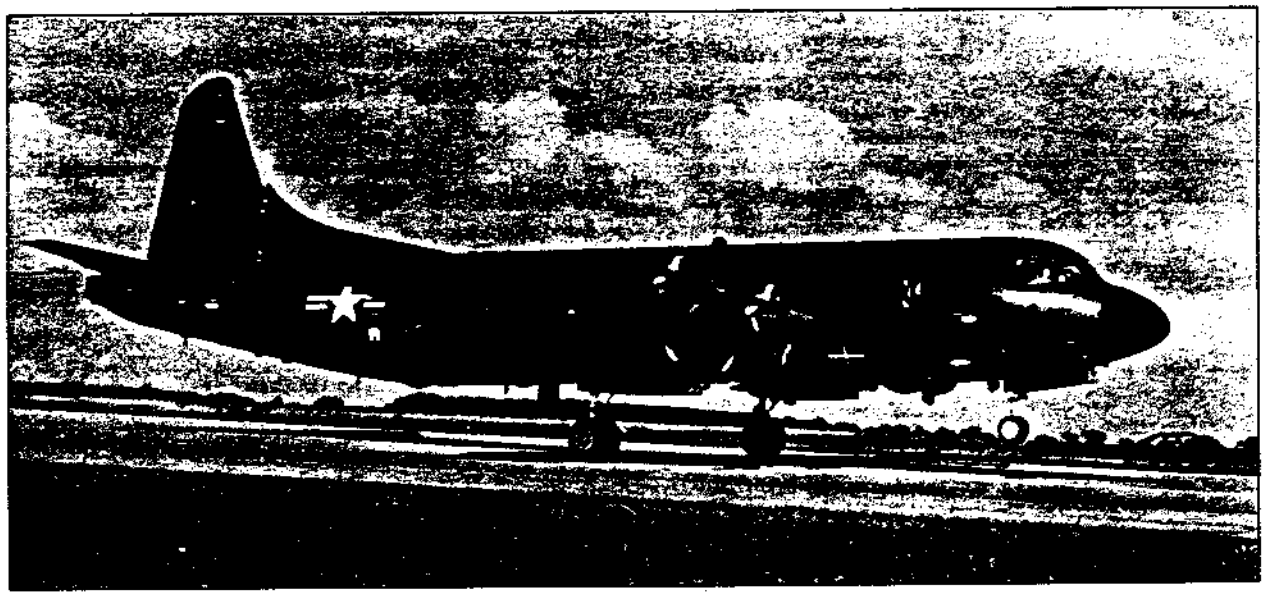

Lockheed P-2V7 and P3A reconnaissance aircraft

supplying the Nationalist Chinese Government with the most advanced reconnaissance aircraft available, the U-2. The CIA opposed a Nationalist Chinese U-2 program because such flights would destroy the existing unclassified cover for the U-2. In discussions with the Air Force, DDCI Cabell only consented to having Nationalist pilots trained to fly U-2s so that they would be ready in case they were needed in the future; he opposed any Nationalist overflights. The training of the Nationalist Chinese pilots began in March 1959. By the end of the year, there was a group of trained pilots ready for operations, and DCI Dulles met with the Joint Chiefs of Staff to discuss the program's future. Dulles reaffirmed the Agency's opposition to Nationalist Chinese U-2 missions, and the Air Force, which had

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wanted the Nationalists to be allowed to begin operations, reluctantly agreed to wait until conditions were favorable.[34] The situation changed radically in May 1960 after the loss of Powers' U-2 destroyed the existing cover story for U-2 operations. Now there was no longer any reason not to use the Nationalist pilots. In addition, the Agency soon found itself in need of a base of operations in the Far East after Detachment C had to leave Japan.

During discussions with Nationalist officials on 6 May 1960, the [redacted] raised the possibility of assigning U-2s to the Chinese Air Force. Two weeks later, [redacted] approached [redacted] informally to propose that the U-2 aircraft based in Japan be moved to Taiwan. This was followed three days later by an official offer on [redacted] President Eisenhower learned of Nationalist China's proposal on 18 June. Several weeks later, Richard Bissell suggested that two U-2s be turned over to the Nationalists for use in overflying the mainland. The project would be conducted along the lines of Project STPOLLY.[35]

On 26 August 1960, President Eisenhower and the State Department approved Bissell's proposal to turn U-2s over to the Nationalist Chinese rather than move an American detachment to Taiwan. Using Nationalist pilots for overflights had the advantage of providing complete deniability for the United States, even if an aircraft was lost over hostile territory. The U-2s would belong to Nationalist China and would have Nationalist pilots, and there was no overt US involvement with the overflights. In reality, however, the United States would maintain strict control over the missions to be flown.[36]

On 7 December 1960, two U-2s were officially licensed for export to Nationalist China as part of a new effort codenamed TACKLE. These planes came from the Agency's U-2 inventory and arrived in

[34] Andrew J. Russo, *Low-Level Technical Reconnaissance Over Mainland China (1955-1966)* (draft), Clandestine Services Historical Program, CSHP-2.348 (CIA: History Staff, 1972) (S).

[35] *OSA History*, chap. 17, pp. 1-7 (TS Codeword).

[36] Ibid., chap. 17, pp. 12-13, 44 (TS Codeword).

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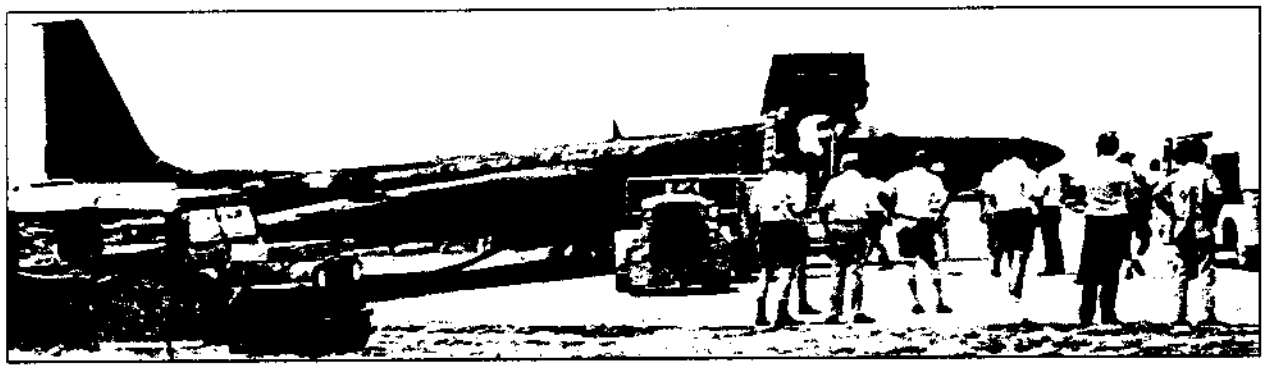

Detachment H U-2 at T'ao-yuan Airfield

Taiwan on 14 December. Within the Agency the Nationalist pilots and aircraft were known as Detachment H, and they were based at the Nationalist Chinese Air Force Base at T'ao-yuan. One of the U-2s was painted with the Nationalist Chinese insignia, and the other was left unmarked so that it could also be used by Agency pilots as needed. The planes were maintained by Lockheed mechanics under contract to the CIA. The Agency attempted to maintain at least two U-2s in Detachment H, so lost or damaged aircraft were replaced from the Agency's inventory.

During 1961, Detachment H conducted training missions with both U-2s, and one Nationalist pilot was killed in a crash on 19 March. Although the detachment was ready to begin operations, the new Kennedy administration was not yet ready to authorize overflights of the PRC. In a 3 March 1961 meeting between State Department and CIA officials to discuss the possibility of such overflights, Under Secretary of State Chester Bowles noted that "the President was feeling his way on the international scene, and time was needed to evaluate the new Sino-Soviet posture with relation to the United States." [37] In July 1961 the USIB considered the possibility of conducting overflights of the PRC, but the State Department remained opposed.

By the fall of 1961, interest in overflights of the PRC was growing because of indications that the Chinese were making progress in nuclear energy and missile development. As a result, on 4 October

[37] James A. Cunningham, Jr., Assistant Chief, DPD-DD/P, Memorandum for the Record, "TACKLE STPOLLY Briefing for State Department Officials," 6 March 1961, IC Staff, COMIREX records, job 33-B-119A, box 1, "IDEALIST/TACKLE, 1961" (S).

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1961 PFIAB recommended the initiation of a limited number of U-2 photographic missions over the Chinese mainland. The President approved the board's recommendation.

Because the US–Nationalist Chinese overflight program (Project TACKLE) was a joint effort, both countries participated in the approval process and also shared in the results of the missions. The USIB COMOR established the requirements for Detachment H's overflights, which had to be approved by the NSC's Special Group (5412 Committee) and the President. The Nationalist Chinese Government also approved all missions flown by its pilots. Under the terms of an agreement reached with the Nationalist Chinese Government, film from the overflights of the mainland would be processed in the United States, with a duplicate positive copy returned to Nationalist China within 10 days. NPIC was responsible for the initial reporting on these missions.[38]

Project TACKLE overflights began early in 1962. Following a 5 January Special Group decision to approve three missions, a Detachment H U-2 with a Nationalist Chinese pilot flew its first mission over the PRC's missile-testing range at Shuangchengzi on 12 January 1962. Unfortunately, because of faulty navigation or faulty maps, the aircraft was poorly positioned and obtained only oblique, rather than vertical, photography of the range. En route to and from Shuangchengzi, the U-2 overflew Fukien and Chekiang Provinces looking for suspected deployed missiles, but none could be found in the mission photography.[39]

The second Project TACKLE mission took place on 23 February 1962, when a U-2 overflew the PRC's nuclear weapons establishment at Lan-chou. Photography from this mission revealed that the installation was at least two years away from operational capacity. Two more missions on 13 and 26 March flew over K'un-ming and central China covering numerous airfields that had been discovered in satellite photography. The U-2 photographs showed more detail than the satellite pictures, thereby, providing additional intelligence data, particularly

[38] *OSA History*, chap. 17, pp. 18-19, annex 107 (TS Codeword).

[39] Ibid., chap. 17, p. 45 (TS Codeword); Mission folder GRC100 (12 January 1962), OSA records, job 67-B-972, box 19 (TS Codeword). Note: The numbers for missions flown by Nationalist Chinese pilots began with GRC (Government of the Republic of China).

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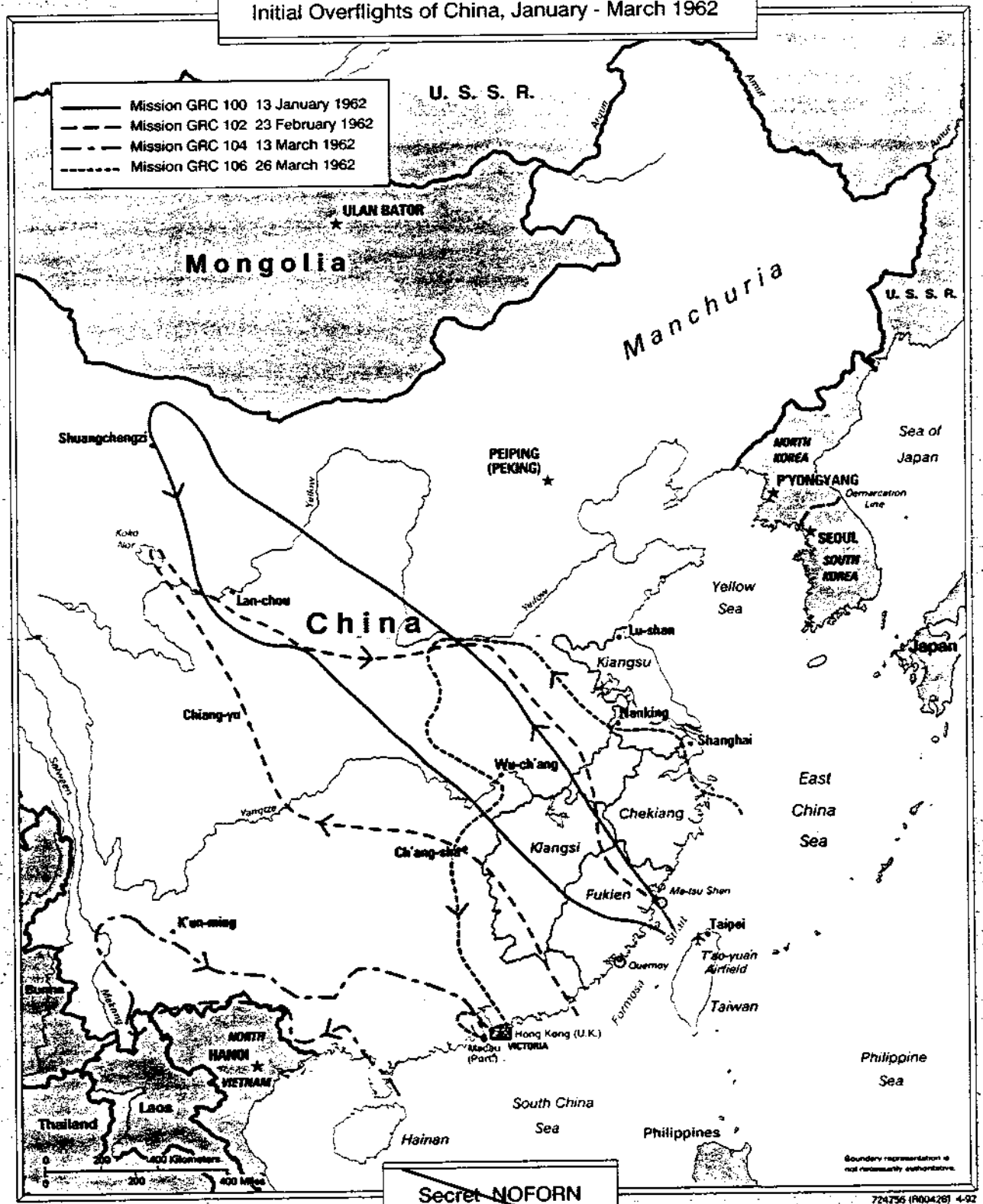
Initial Overflights of China, January - March 1962



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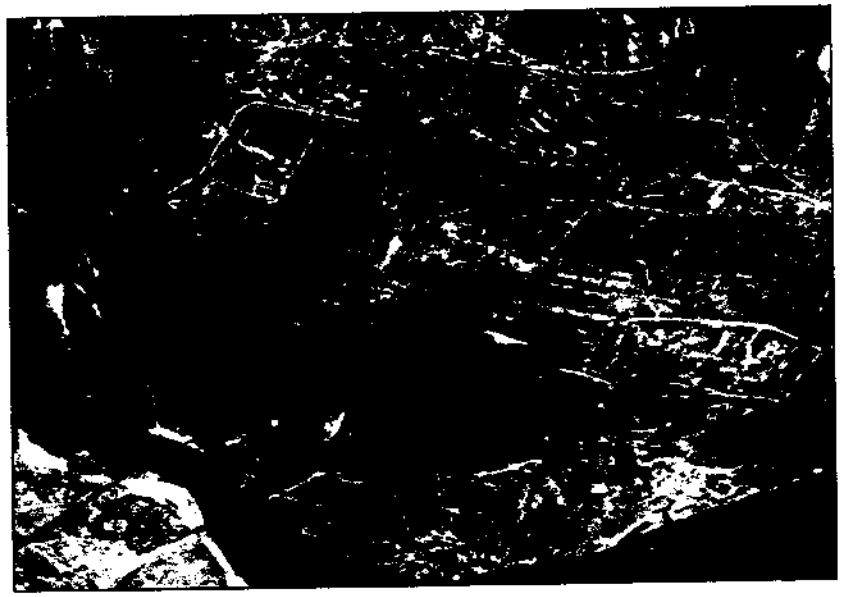

Lan-chou, PRC, 23 February 1962

for air order of battle. In addition to the primary targets already described, the initial series of Project TACKLE missions obtained photography of the submarine construction facilities at Shanghai and Wu-ch'ang, which showed a low level of activity. Other photographs revealed tremendous expansion of the industrial complexes at Nanking and Ch'ang-sha and the presence of a previously unknown industrial area at Chiang-yu.[40]

Encouraged by the success of the first TACKLE missions, COMOR recommended in May 1962 that Detachment H cover as many as possible of the highest priority industrial and airfield targets in northeast China and the missile test ranges in north China. COMOR noted that, with the exception of the areas around Peiping and the Shuangchengzi missile test range, the chances of a U-2 being downed were low. The USIB concurred with COMOR's recommendations, and Detachment H therefore conducted three more overflights of the PRC during the month of June.[41]

[40] *OSA History*, chap. 17, p. 45 (TS Codeword); Mission folders GRC102 (23 February 1962), GRC104 (13 March 1962), and GRC106 (26 March 1962), OSA records, job 67-B-972, box 19 (TS Codeword).

[41] Lay, "USIB History," vol. 2, pp. 385-386 (TS Codeword).

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Before the month was over, however, another confrontation between Nationalist China and the PRC over the Formosa Strait erupted. The Nationalist Government reported a massive buildup of PRC troops and aircraft in Fukien Province opposite the Nationalist-held Quemoy and Ma-tsu Islands. Secretary of Defense Robert McNamara immediately ordered U-2 coverage of the Strait area to determine the extent of the PRC buildup. In response, Detachment H flew six missions over the Strait between 25 June and 28 July 1962. To speed up the readout of this photography, the films were processed at the Asian Photographic Interpretation Center (ASPIC) at Yokota, Japan, a joint military-CIA endeavor. The U-2 coverage ended in late July when it became apparent that the PRC did not intend to mount an invasion of the offshore islands.[42]

The pace of Detachment H missions slowed considerably in August 1962; the sole Project TACKLE overflight covered Peiping and Manchuria. The following month the detachment mounted two missions, one over south China on the eighth and the second over Kiangsu Province on the ninth. Unfortunately, mechanical difficulties led to the loss of the latter aircraft near Lu-shan. A flameout forced the U-2 down to an altitude where PRC interceptors were able to hit the U-2 with an air-to-air rocket. The Nationalist Chinese pilot parachuted and was captured. At this point, President Kennedy ordered a standdown of overflights of the PRC.[43]

Following the capture of the Nationalist Chinese U-2 pilot, the People's Republic of China accused the United States of masterminding the overflights, but the State Department denied any involvement. Nationalist China then revealed that the United States had granted it a license to purchase two U-2 aircraft. In a 13 September 1962 response to the Chinese protest, President Kennedy denied any responsibility for the sale of the U-2s to Taiwan, noting that the sale had occurred under the previous administration. He stated that there were no current plans to sell any more U-2s to Nationalist China. Eight months later, however, the President approved an export license for the delivery of another U-2 to Taiwan. Such licenses were needed only for cover purposes. The Agency continued to maintain two U-2s on Taiwan, bringing new ones in to replace aircraft lost in training or on missions.

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[42] *OSA History*, chap. 17, p. 46 (TS Codeword).

[43] Ibid., pp. 46-47 (TS Codeword); Mission folders GRC125 (11 August 1962), GRC126 (8 September 1962), and GRC127 (9 September 1962), OSA records, job 67-B-972, boxes 20 and 21 (TS Codeword).

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Detachment H resumed overflights of mainland China in December 1962, but its missions now concentrated on the southern portion where there were fewer radars and SAM sites. During December 1962 and January 1963, the detachment conducted two successful overflights of Sichuan, but a mission over south China had to be aborted prematurely. The results of Detachment H's continuing coverage of the People's Republic of China remained of considerable interest to the United States. On 17 December 1962, the Special Group approved plans for fiscal year 1963/64 that included requirements for photo coverage of mainland China and for maintaining at least two operational U-2 aircraft in Detachment H.[44]

Use of Detachment H Aircraft by US Pilots

Detachment H's importance did not lie solely in the missions carried out by its Nationalist Chinese pilots against targets in mainland China; the detachment also provided aircraft for use by American pilots flying missions in other parts of Asia. Indochina was an area of particular interest as American involvement there began growing during the early 1960s. Beginning in February 1962, Detachment G pilots went to T'ao-yuan to use the unmarked Project TACKLE U-2 for overflights of North Vietnam. During the first half of 1962, Detachment G pilots made seven overflights of North Vietnam from the Tao Yuan base. Thereafter, Detachment G pilots could use their own aircraft because the unit began staging teams and aircraft from Edwards AFB to Ta Khli AFB in Thailand.

Between 1962 and 1964, Agency U-2s staged a total of 36 photographic missions over North and South Vietnam. By April 1964, however, photographic requirements were changing from strategic reconnaissance to tactical support as the Viet Cong became more active, taking advantage of the weakness of the South Vietnamese central government following the coup that overthrew President Ngo Dinh Diem in 1963 and subsequent coups by disgruntled army officers. During this period the South Vietnamese "strategic hamlet" concept began breaking down, and the Viet Cong forces stepped up the pace of their attacks. As a result of the increasing level of combat in Indochina, the USIB gave responsibility for aerial reconnaissance of the areas where fighting was taking place to the SAC. Henceforth, SAC U-2s would be used over South Vietnam, parts of Cambodia

[44] *OSA History*, chap. 17, pp. 48-49 (TS Codeword); Mission folders GRC134 (25 December 1962), GRC136 (28 December 1962), and GRC138 (20 January 1963), OSA records, job 67-B-972, box 21, and job 66-B-664, box 1 (TS Codeword).

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within 30 miles of South Vietnam, all of Laos south of Paksane, and all of North Vietnam within 30 miles of South Vietnam or the coast. The remaining portions of Indochina remained the responsibility of the Agency's U-2s. Then in August 1964, following the Gulf of Tonkin Resolution, the Air Force assumed responsibility for all of Indochina.[45]

U-2s in India

In October 1962, the People's Republic of China launched a series of massive surprise attacks against India's frontier forces in the western provinces of Jammu and Kashmir and in the North-East Frontier Agency (NEFA). The Chinese overran all Indian fortifications north of the Brahmaputra Valley before halting their operations.

The Indian Government appealed to the United States for military aid. In the negotiations that followed, it became apparent that Indian claims concerning the extent of the Chinese incursions could not be reliably evaluated. US Ambassador John Kenneth Galbraith, therefore, suggested to the Indian Government that US aerial reconnaissance of the disputed areas would provide both governments with a more accurate picture of the Communist Chinese incursions. On 11 November 1962, Prime Minister Jawaharlal Nehru consented to the proposed operation and gave the United States permission to refuel the reconnaissance aircraft (U-2s) in Indian airspace.[46]

In late November, Detachment G deployed to Ta Khli, Thailand, to carry out the overflights of the Sino-Indian border area. Since the U-2s were not authorized to overfly Burma, they had to reach the target area via the Bay of Bengal and eastern India and, therefore, required midair refueling.

Because of severe winter weather conditions, the first flight did not take place until 5 December. Poor weather and air turbulence hampered the mission, and only 40 percent of the target area could be photographed. A second mission on 10 December was more successful, but the U-2 experienced rough engine performance because of icing of the fuel lines.[47]

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[45] *OSA History*, chap. 16, pp. 18-19 (TS Codeword).

[46] Ibid., chap. 16, pp. 26-27 (TS Codeword).

[47] Ibid., p. 28 (TS Codeword); Mission folders 3201 (5 December 1962 and 3203 (10 December 1962), OSA records, job 67-B-972, box 26 (TS Codeword).

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Detachment G U-2s made four more overflights of the Sino-Indian border areas in January 1963, which led to a PRC protest to India. Photography from these missions was used in January and again in March 1963 to brief Prime Minister Nehru, who then informed the Indian Parliament about Communist Chinese troop movements along the border. Although Nehru did not reveal the source of his intelligence, a UPI wire story surmised that the information had been obtained by U-2s.

The United States had provided photographic coverage of the border area to India for two reasons. First of all, US policymakers wanted a clear picture of the area under dispute. In addition, the intelligence community wanted to establish a precedent for overflights from India, which could lead to obtaining a permanent staging base in India for electronic reconnaissance missions against the Soviet ABM site at Saryshagan and photographic missions against those portions of western China that were out of range of Detachment H. In April 1963, Ambassador Galbraith and the Chief of Station at New Delhi made the first official request to India for a base. The following month, President Kennedy agreed to DCI McCone's suggestion to raise the question of a U-2 base in India when he met with India's President Savepalli Radhakrishnan on 3 June. This meeting resulted in an Indian offer of an abandoned World War II base at Charbatia, south of Calcutta.[48]

The Charbatia base was in poor condition and needed considerable renovation before it could be used for U-2 operations. Work on the base by the Indians took much longer than expected, so Detachment G continued to use Ta Khli when it staged four sorties over Tibet from 29 September to 10 November 1963. In addition to the coverage of the Sino-Indian border during this series of flights, the U-2s also photographed all of Thailand to produce a photomap of the border regions as a quid pro quo for the Thai Government. During one of these photomapping missions, a U-2 pilot conducted the longest mission ever recorded in this aircraft—11 hours and 45 minutes. At the end of this flight on 10 November 1963, the pilot was in such poor physical condition that project managers prohibited the scheduling of future missions longer than 10 hours.[49]

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[48] *OSA History*, chap. 16, p. 30 (TS Codeword).

[49] Mission folder 3238 (10 November 1963), OSA records, job 67-B-972, box 29 (TS Codeword).

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Charbatia was still not ready in early 1964, so on 31 March 1964 Detachment G staged another mission from Ta Khli. The first mission out of Charbatia did not take place until 24 May 1964. Three days later Prime Minister Nehru died, and further operations were postponed. The pilots and aircraft left Charbatia, but other equipment remained in place to save staging costs. In December 1964, when Sino-Indian tensions increased along the border, Detachment G returned to Charbatia and conducted three highly successful missions, satisfying all of COMOR's requirements for the Sino-Indian border region. By this time, however, Ta Khli had become the main base for Detachment G's Asian operations, and Charbatia served merely as a forward staging base. Charbatia was closed out in July 1967.[50]

Increasing Responsibilities, Inadequate Resources in Asia

The main focus of Agency U-2 activity in Asia remained the U-2s of Detachment H on Taiwan. In March and April 1963, the USIB met to consider COMOR proposals for aerial reconnaissance of Laos, North Vietnam, North Korea, and the People's Republic of China. All of COMOR's intelligence requirements could best be met by the U-2 because heavy cloud cover made it difficult to obtain satellite photography of the region. At the 28 May 1963 meeting of the Special Group, DCI McCone requested authorization for a series of overflights to meet these requirements and stressed the need for additional intelligence on the atomic energy facilities of the PRC. The Special Group then established a "bank" of four authorizations for overflights of the PRC, subject to monthly review by the Group.[51]

As a result of the increasing intelligence community interest in the Far East, both Agency U-2 detachments became very active in the region. Detachment G conducted a number of missions over the border areas of China, North Vietnam, and Laos during April and May of 1963. At the same time, Detachment H became more adventurous, sending U-2s deeper and deeper into the PRC. These missions included renewed overflights of the missile test range near Baotou and the Lan-chou nuclear facilities, as well as targets in northern China, Manchuria, and west-central China (as far as Koko Nor).

[50] *OSA History*, chap. 16, pp. 30-34 (TS Codeword).

[51] Lay, "USIB History," vol. 3, pp. 391-392 (TS Codeword).

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The increased level of U-2 activity in the Far East during the spring of 1963 exposed a serious weakness in Projects IDEALIST and TACKLE, a shortage of aircraft. The Agency only had seven flyable U-2s when the TACKLE overflights of the PRC began in January 1962, and one of these aircraft had already been lost during an overflight in September 1962. To deal with this shortage, DCI McCone asked Defense Secretary McNamara and the Joint Chiefs of Staff on 10 June 1963 to transfer two U-2s from the Air Force to the CIA. The Defense Department quickly approved this request. Before the two Air Force aircraft were placed in service, however, the Agency had them upgraded with J75/P-13A engines and various electronic devices, a process that took more than four months.[52]

As overflights over the PRC increased, so did concern about the growing number of Chinese surface-to-air missile sites. The Office of Special Activities, therefore, got permission from the Defense Department to equip Project TACKLE aircraft with System-XII SAM-warning units. These devices alerted the pilot that his aircraft was being tracked by the FAN SONG acquisition radar, part of the SA-2's electronic targeting system. The System-XII units also recorded each radar-tracking sequence. Analysis of these recordings revealed changes in the FAN SONG radar's characteristics, information that proved useful in designing electronic-countermeasure (ECM) devices for US aircraft operating over Vietnam during the late 1960s.[53]

Despite the addition of System-XII in the spring of 1963, the Nationalist Chinese–piloted U-2s of Project TACKLE had far fewer ECM devices than other Agency U-2s. Project IDEALIST aircraft possessed a complete suite of ECM gear in addition to the previously mentioned System-XII unit. Among this ECM equipment was a device that told the pilot that an SA-2 missile had been launched (nicknamed the "Oscar-Sierra" unit, which was the acronym for the expletive U-2 pilots used when they learned that an SA-2 missile was on the way: "Oh, shit!") and a System-XIII unit that produced false-angle returns to the homing radar aboard the approaching missile in an effort to steer it away from the aircraft. The Defense Department opposed installing such devices aboard Detachment H's U-2s, for fear they could fall into Communist hands.

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[52] *OSA History*, chap. 16, p. 10 (TS Codeword).

[53] Ibid., chap. 17, p. 50 (TS Codeword).

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The danger posed by the growing number of SA-2 sites in the PRC was clearly demonstrated on 1 November 1963, when a second Project TACKLE U-2 was lost near the Kiangsi-Chekiang border on its way back from photographing the PRC's Shuangchengzi missile test range. As was the case after the first operational loss over China in September 1961, President Kennedy ordered a standdown of overflights of mainland China. This standdown lasted almost five months.

As a result of this second loss over the PRC, the Office of Special Activities began installing a new 30-channel telemetry system aboard Detachment H U-2s to monitor various aircraft functions. Known as BIRDWATCHER, this unit periodically broadcast a burst of data to the airbase that launched the U-2. This data burst contained a status report on all the major systems aboard the plane, such as airspeed, altitude, exhaust temperature, fuel supply, film supply, and oxygen supply. BIRDWATCHER provided project managers with a benchmark of aircraft performance that could be used to determine if a lost plane had been shot down at altitude or had suffered mechanical failure.[54]

BIRDWATCHER's first operational use came on 16 March 1964, when overflights resumed with a mission over southern China. The PRC was now a high-priority target for the U-2 because more data were needed to prepare National Intelligence Estimates due in the autumn. Of particular concern was the PRC's nuclear program. Despite the high priority of its missions, Detachment H's resources remained scarce. It was short of both pilots and planes and never had more than three U-2s or six qualified Nationalist Chinese pilots at any one time. By the spring of 1964, crashes during training and the two losses over the mainland had reduced Detachment H to only two qualified pilots, one of whom suffered from ulcers and a nervous disorder. Indeed, this pilot had every reason to be nervous; he flew three of the next four Detachment H overflights and became the third Nationalist Chinese pilot to be shot down over the mainland.

This loss came on 7 July 1964. The Nationalist Chinese pilot's last transmission was that his System-XII unit had alerted him that he was being tracked by the FAN SONG radar. BIRDWATCHER data revealed that the aircraft was at penetration altitude and all systems

[54] Ibid., p. 51, 53 (TS Codeword).

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were normal when the pilot made this report. Project managers presumed that the U-2 was downed by a direct hit or near miss by an SA-2 missile.[55]

President Johnson ordered a standdown of overflights of the PRC. This standdown was welcomed by the Nationalist Chinese Government, which told the Taiwan Chief of Station that it wanted "to let some time go by" before more overflights were scheduled. The Nationalists pointed out that the only remaining qualified U-2 pilot had "disqualified" himself because of nervous tension. No new pilots could be qualified for U-2 flights before mid-August.

The Nationalists then demanded faster and higher flying aircraft as well as better antimissile equipment for the planes. This request led some CIA personnel to suspect that Nationalist China had learned about Project OXCART, the successor to the U-2 that was still undergoing testing. Despite the Nationalists' request for better ECM equipment, the Defense Department remained reluctant to authorize the use of the System-XIII false-angle radar jammer on Project TACKLE U-2s. The Defense Department feared that the loss of this device with its highly advanced traveling-wave tube (TWT) would enable Communist Bloc technicians to devise countermeasures and also learn how to produce the highly efficient TWT themselves. As an incentive for the Nationalist Chinese to agree to more overflights, the CIA agreed to permit them to process the U-2 film on Taiwan and to use their own photointerpreters to exploit the film along with US photointerpreters.

To counter the shortage of pilots in Detachment H, DCI McCone suggested to the Special Group on 6 August 1964 that civilian CIA pilots be used to fly missions over mainland China. The group agreed that the matter should be taken up with President Johnson. On the following day, however, Presidential National Security Assistant McGeorge Bundy informed McCone that, because Secretary of State Rusk and Secretary of Defense McNamara opposed the idea, he would not take it up with the President.[56]

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[55] *OSA History*, chap. 17, pp. 53-55 (TS Codeword); Mission folder C174C (7 July 1964), OSA records, job 66-B-664, box 7 (TS Codeword). Note: beginning in 1964 Nationalist Chinese mission numbers began with "C" instead of "GRC."

[56] *OSA History*, chap. 17, pp. 58-59 (TS Codeword).

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Advanced ECM Equipment for Detachment H

Demand for overhead photography of the PRC continued to grow, spurred in part by the results of earlier U-2 missions that revealed the presence of Soviet-made MiG-21s in the PRC. In addition, there were indications that Communist China might be producing its own SAMs. Furthermore, satellite photography revealed that preparations for the first Chinese nuclear test were almost complete at the Lop Nor test site.

The need for photographs of the Lop Nor site was considered so urgent that the Defense Department finally relented and permitted the System-XIII false-angle device jammer to be installed in Project TACKLE aircraft, with the proviso that it not be turned on until after the pilot had been alerted by System-XII that he was being tracked by FAN SONG radars. Photographing Lop Nor, however, was not a simple task. Located more than 2,000 miles west-northwest of Taiwan, Lop Nor lay beyond the round trip range of T'ao-yuan–based U-2s and in-flight refueling was not possible. Lop Nor was closer to Ta Khli, Thailand, only 1,650 miles northwest of that base, and much closer to Charbatia, India, which lay only 1,200 miles south of the testing site.

After refusing DCI McCone's suggestion to stage a Lop Nor overflight from Charbatia using a CIA civilian pilot, President Johnson approved a proposal to send a Project TACKLE unit to Ta Khli for the mission to Lop Nor. A Detachment H U-2 with a Nationalist Chinese pilot deployed to Ta Khli in mid-October to prepare for the overflight. Before mission preparations could be completed, however, the Chinese detonated their first nuclear weapon on 16 October 1964, and the mission was canceled.[57]

The first overflight of Communist China since the 7 July 1964 loss was a 31 October mission over Lan-chou. By mid-November, three more overflights had taken place, one over North Korea and northern China and two over southern and central China. An overflight of Manchuria on 9 December 1964 brought back photos of a G-class ballistic-missile submarine. By this time, the mass of data being provided by Project TACKLE overflights was overwhelming the analysts of the Office of Research and Reports (ORR). An ORR memorandum from 11 January 1965 reported that analysis of the "large backlog of unexploited photography on Chinese Communist

[57] Lay, "USIB History," vol. 6, pp. 751, 753-755.

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ground force installations...would require about two man-years work, backed up by a larger expansion of photointerpretation effort."[58]

[58] ORR, Memorandum for the Record, 11 January 1965, OSA records (TS Codeword).

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The loss of yet another U-2 and its pilot made Nationalist Chinese officials reluctant to resume overflights of the mainland. They insisted that their U-2 pilots be given permission to turn on the System-XIII false-angle device during the entire time they were over hostile territory, not just after they had been alerted by the System-XII radar-detection device. The Defense Department acceded to these demands in order to keep the TACKLE flights going. In addition, the Project TACKLE U-2s began receiving even more advanced ECM equipment.[60]

[59] Mission folders C284C (22 November 1964), C304C (25 November 1964), C344C (19 December 1964), and C015C (8 January 1965), OSA records, job 66-B-664, box 8, job 69-B-404, box 2, and job 66-B-597, box 1; *USIB History*, vol. 6, p. 758 (TS Codeword).

[60] Ibid., chap. 17, pp. 59-61 (TS Codeword).

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With their demands met, Nationalist Chinese officials again consented to overflights by Detachment H, and operations resumed in February 1965 with three missions over the mainland. By this time US interest in the People's Republic of China was very high because of the PRC's development of nuclear weapons. The Special Group, therefore, approved an extensive reconnaissance program directed against the PRC. By the end of the year, Detachment H had flown 30 missions, the highest annual total during the entire program.

The level of activity declined during 1966, with only 10 missions flown over the mainland. Detachment H also suffered the loss of two more aircraft and pilots in crashes during training missions in 1966. In the fall of that year, joint US–Nationalist Chinese relations in the field of overhead reconnaissance were further strained by the unilateral US decision to kill the longstanding program of low-altitude nighttime overflights of the mainland (STPOLLY).[61]

[61] Ibid., chap. 19, annex 120, pp. 22-24; chap. 17, p. 69 (TS Codeword).

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The entire U-2 overflight program was temporarily halted in early November 1967 after an Air Force U-2 in Vietnam was discovered to have cracks in its wing. All Air Force and CIA U-2s were ordered back to Lockheed for ultrasonic inspection of the wings and other stress points to check on metal fatigue. Upon completion of this inspection, both the Air Force and the Agency resumed their overflight activity.[64]

The End of U-2 Overflights of Mainland China

Project TACKLE mounted a mission over northeastern China on 13 December 1967 and an overflight of central China on 5 January 1968. Later that month the Far East became very tense when North Korea seized the US electronic intelligence ship Pueblo on 23 January. One

[62] Ibid., chap. 17, p. 72 (TS Codeword).

[63] Mission folder C297C (8 September 1967), OSA records (TS Codeword).

[64] *OSA History*, chap. 16, p. 44 (TS Codeword).

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week later the Viet Cong and North Vietnamese launched their Tet offensive in South Vietnam. The 303 Committee (the new name for the Special Group after 1964) decided on 1 February 1968 to suspend a group of overflights scheduled for February and called for mission-by-mission approval "during this period of tension." The committee approved one additional overflight of southern China, which was flown by Detachment H on 16 March 1968, and two overflights of Cambodia, carried out on 27 March and 3 April 1968 by Detachment G in its first operations since early 1966. These three missions turned out to be the last overflights by U-2s in the Far East. By this time U-2 flights over the PRC had become so dangerous that the State Department opposed further overflights, and on 10 April 1968 the 303 Committee decided not to approve any mission that would fly closer than 20 miles from the coast of China.

One reason why Detachment H's overflights were stopped was the steady increase in the PRC's ability to track and engage U-2s, as evidenced by its success in downing five U-2s. By 1968 PRC radars along the coast opposite Taiwan were keeping a close watch on U-2 activity from the T'ao-yuan base and actively tracked U-2s as soon as they became airborne. The U-2s then had to face a growing PRC air defense system that not only consisted of SA-2 missiles but also the fast and high-flying MiG-21. The PRC's MiG-21 pilots had become adept at the power-zoom technique and were threatening almost every U-2 mission. The risks to U-2s now seemed too great.[65]

The decision to end Asian overflights was also rooted in the Johnson administration's change in its whole approach to the war in Indochina in the spring of 1968. On 31 March 1968, the President limited the bombing of North Vietnam in order to improve the chances for peace talks. The end of flights over the People's Republic of China was viewed as another way to improve the peace process.

During its six years of overflight operations, Project TACKLE had been extremely active, staging a total of 104 flights over the People's Republic of China (see table, page 244). These missions had brought back huge amounts of data about the PRC but not without a price: five Project TACKLE aircraft had been downed by the PRC, with two of the pilots killed and the other three captured (although later returned). In addition, five other Nationalist Chinese pilots had been killed in training accidents.

[65] OSA, "Chronology of Events Leading to Present Impasse on Resumption of TACKLE Overflights of Mainland China," December 1968, OSA records (TS).

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Overflights by Project TACKLE

Fiscal Year	Overflights
Total	**104**
1962	18
1963	17
1964	13
1965	30
1966	10
1967	14
1968	2

Peripheral Missions by Detachment H

Detachment H did not cease its activities following the termination of overflights of mainland China. Its next U-2 mission took place on 18 May 1968. This was an electronic intelligence mission that, in accordance with the new guidelines, never came closer than 20 miles to the Chinese coast. All future Detachment H missions against the PRC also conformed with this restriction but were still the target of interception attempts by PRC MiG-21s or hastily erected SAM sites on offshore islands. The use of peripheral missions prevented any further losses, although one aircraft crashed into the sea from unknown causes shortly after taking off to start a mission on 5 January 1969. Another pilot was killed on 24 November 1970 in a crash during a routine training mission.[66]

The level of activity gradually increased during the remaining years of Project TACKLE, as can be seen in the table on page 245.

The U-2s flying these missions were generally equipped with the B or the newly designed 48-inch H cameras to obtain oblique photography and with various signal-intelligence-gathering systems. Beginning in May 1971, Project TACKLE began using a new communications-intelligence collection package known as LONG SHAFT. This system was used on 32 occasions through 12 December 1973, when the LONG SHAFT collection program ended.

[66] "Office of Special Activities History, April 1969 to Phase-Out," (draft; hereafter cited as "OSA History-2") (CIA: DS&T, 1974), chap. 3, pp. 36-42 (TS Codeword).

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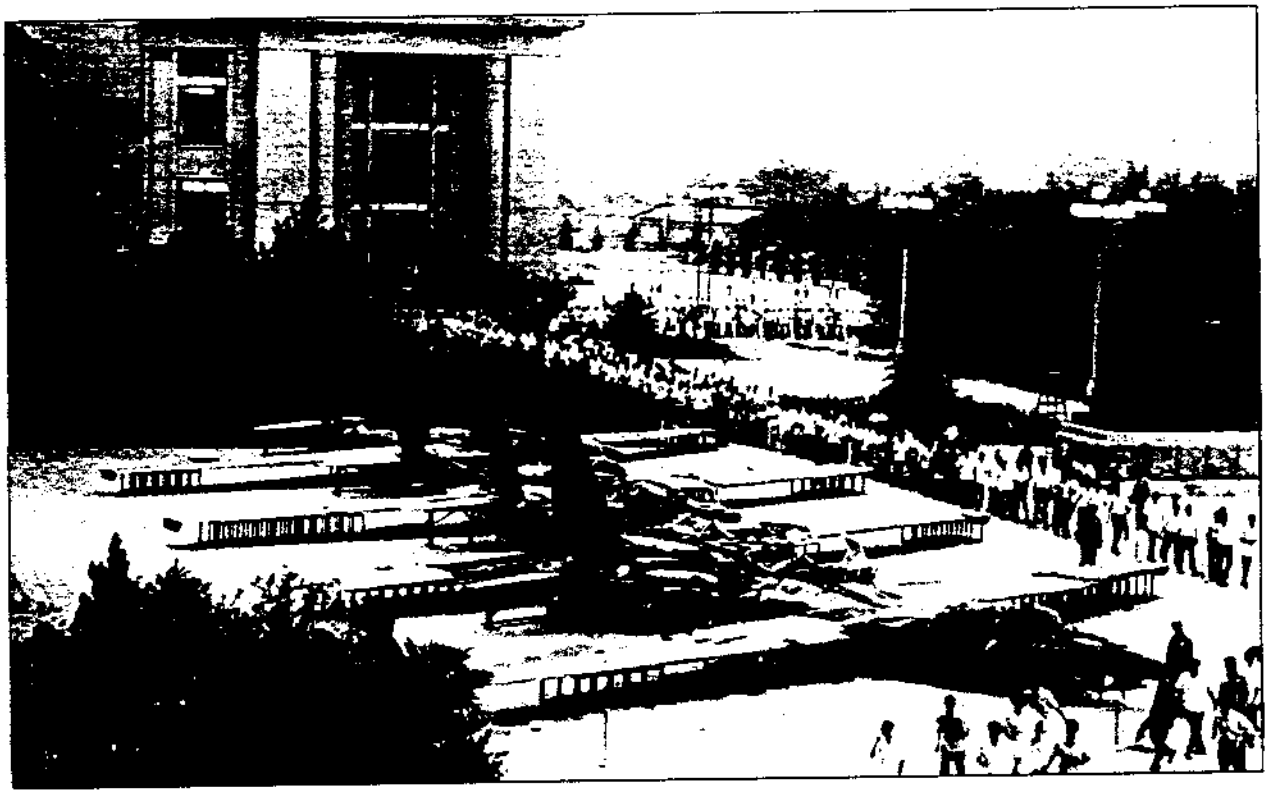

Display of downed detachment H U-2s in Peiping

Project TACKLE Peripheral Missions, 1969-1974

Fiscal Year	Missions
1969	9
1970	14
1971	19
1972	23
1973	31
1974	17

Once the United States began seeking a rapprochement with the People's Republic of China, Detachment H U-2s came under more and more restrictions. Soon after the impending visit of President Richard M. Nixon to the PRC was announced, U-2 missions were ordered to stay even farther away from the mainland: 25 nautical miles instead of the previous 20. During the months of February and

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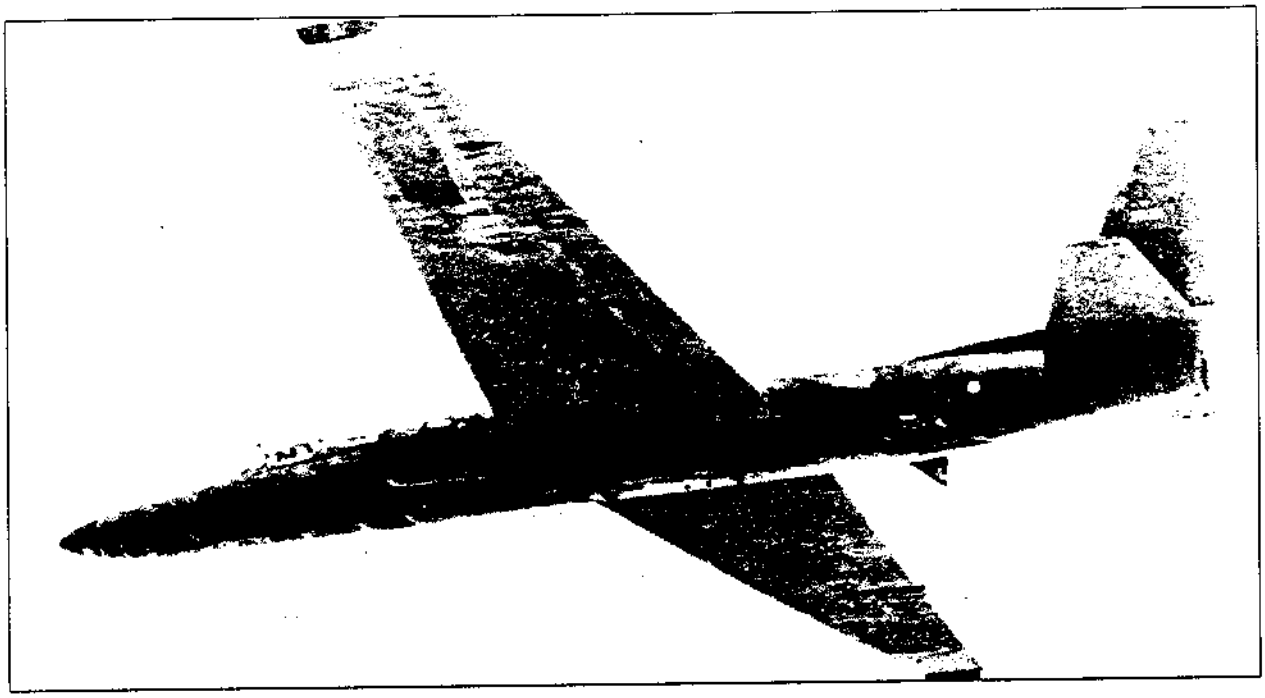

Nationalist Chinese U-2R

March 1972, when the President's visit took place, Detachment H ceased all operational missions.[67]

In March 1973, the TACKLE agreement with the Nationalist Chinese was renegotiated. Although no end date was set, the agreement contained a termination clause that would become effective three months after notification by either party. This clause provided more flexibility to the United States, which could now end the Nationalist Chinese U-2 program whenever US foreign policy considerations made such a step desirable.

Operation SCOPE SHIELD Over North Vietnam

In addition to the Project TACKLE peripheral missions against the PRC, Detachment H (with Agency rather than Nationalist Chinese pilots) flew a series of missions known as Operation SCOPE SHIELD to gather intelligence on activities in North Vietnam. The Indochina area had become the responsiblity of the Air Force in 1964, but, under the terms of the cease-fire agreement negotiated with North

[67] Ibid., pp. 44-45 (TS Codeword).

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Vietnam in January 1973, US military flights in the area were forbidden. The Nixon administration, therefore, tasked the CIA with monitoring North Vietnam's compliance with the cease-fire accords.

The Agency dispatched several pilots to Taiwan under the cover of Lockheed employees working on a government contract to check weather conditions. Their highly sensitive missions had to remain at least 15 nautical miles away from the North Vietnamese coast, and they initially flew at low altitude in a deceptive direction in order to avoid PRC radars. These constraints made the missions difficult because at low altitude the U-2 consumed more fuel and encountered more turbulence and the pilots' pressure suits tended to overheat.

The first mission on 30 March 1973 was only marginally successful because of cloud cover and haze, which prevented it from photographing most of its targets. A second mission on the following day had somewhat better luck with the weather, but problems with the film processing reduced the mission's coverage. Afterward, the monsoon season prevented any further missions until 21 July 1973. This mission obtained usable photography of SAM sites and North Vietnamese supply operations, although the resolution was not as high as it should have been because the H camera lens had not been properly focused. The last SCOPE SHIELD mission, on 6 January 1974, finally succeeded in obtaining high-quality photography. The mission provided complete coverage of shipping in Haiphong Harbor, SAM defenses, and North Vietnamese naval order of battle.[**]

IMPROVEMENTS IN U-2 TECHNOLOGY

Modification of U-2s for Aircraft Carrier Deployment

In mid-1963, the Office of Special Activities set in motion Project WHALE TALE to examine the possibility of adapting the U-2 aircraft for operations from an aircraft carrier. In the past, protest notes from the Soviet Union to Turkey and Pakistan and from Communist China to India had been responsible for interrupting overflight operations. CIA planners believed that, if U-2s could be modified to operate from aircraft carriers, the United States could avoid the political problems

[**] Ibid., pp. 48-51 (TS Codeword).

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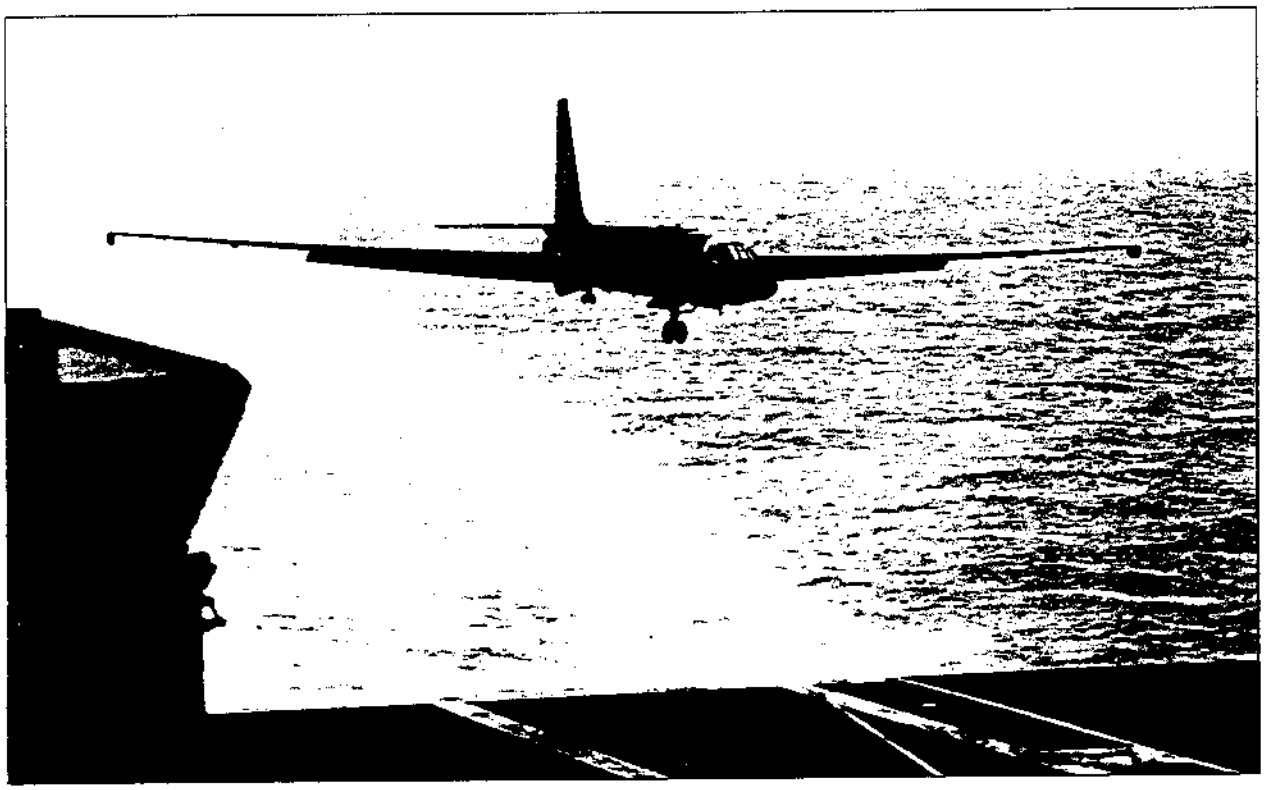

U-2 on the USS Kitty Hawk, 5 August 1963

involved in seeking permission to base U-2s in other nations. Kelly Johnson began working on changes to the aircraft, and Office of Special Activities Deputy Director James A. Cunningham, Jr., a former Marine Corps aviator, asked the Navy for assistance.

The first test of the U-2's capability for carrier operations took place in August 1963 from the USS Kitty Hawk operating in the Pacific Ocean off San Diego, California. A U-2C, which had been loaded aboard the carrier at North Island Naval Base, took off from the flight deck with a full load of fuel and was airborne within 321 feet. No assistance from catapults was necessary. Although the takeoff was very successful, the attempted landing was not. The aircraft bounced, hit hard on one wing tip, and then just barely managed to become airborne again before reaching the end of the deck. Kelly Johnson realized that the airframe would have to be altered in order to make carrier landings possible. These alterations involved strengthening the landing gear, installing an arresting hook at the rear of the fuselage, and fitting "spoilers" on the wings to cancel the aerodynamic lift once the aircraft was over the flight deck. Aircraft thus modified were designated U-2G. While several aircraft

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U-2 on the USS Kitty Hawk, 5 August 1963

underwent these modifications, Detachment G pilots began undergoing training in landing on aircraft carriers. The first successful carrier landing took place on 2 March 1964.[69]

Use of Carrier-Based U-2 To Film a French Nuclear Test Site

Within a few months after the completion of carrier testing, one of the carrier-modified U-2s conducted an operation in the Pacific. Its mission was to gather information on the activities of an ally. In

[69] "U-2 Aircraft Carrier Operations: Project 'WHALE TALE,' Operation FISH HAWK," DS&T, 1964, pp. 1-13 (TS Codeword); Johnson, "Log for Project X," 5 August 1963 and 2 March 1964.

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December 1963, France had announced its intention to detonate a hydrogen device over Mururoa Atoll in the Tuamotu Archipelago area of French Polynesia but had given no specific date for the event. The Committee on Overhead Reconnaissance had been following French nuclear developments since September 1963, when it had apprised the USIB of the need for overflights of this South Pacific area. At that time the USIB decided against recommending such overflights because of State Department concern about potential political difficulties with France in the event the mission was discovered.

Following reports of a buildup of French troops and technical personnel in neighboring Tahiti, the Special Group on 24 April 1964 approved a mission to overfly the atoll to check for activity. This required photography with a resolution better than the 3 to 5 feet possible with the standard B-model camera that had been in use since October 1956. Work on a very-high-resolution camera had begun in early 1963, when the Agency contracted with the Itek Corporation to modify for placement in the U-2 a camera that had been developed for the satellite program. Known as the Delta-II, or the 112A, this device could photograph a 28-kilometer swath with 26° convergent stereoscopic lenses, resulting in a 70° lateral coverage and a ground resolution of 10 inches. This camera was installed in a Detachment H U-2 and used on two missions conducted over Indochina in late December 1963. Resolution was not as high as had been expected, and the unit was returned to Itek for modifications. By early 1964, the 112A had been reworked and was now known as the 112B. In tests it had proved capable of providing photography with resolution in the 10- to 12-inch range.

Detachment G conducted Operation FISH HAWK in May 1964 by sending two pilots, an NPIC photointerpreter, and a U-2G equipped with the Itek 112B camera to make the first operational U-2 flights from an aircraft carrier. On 19 May the U-2 took off from the USS Ranger and overflew the French atomic test area. As soon as the aircraft returned to the Ranger, the film was developed in the carrier's photo lab, and the NPIC photointerpreter then read out the film to see if the photography met the requirements for resolution and quality. A second U-2 flight carried out a similar mission on 22 May. The photography provided all the detail needed to identify the preparations for the nuclear test that occurred later that year.[70]

[70] "U-2 Aircraft Carrier Operations: Project 'WHALE TALE,' Operation FISH HAWK," DS&T, 1964, pp. 17-25.

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There was never another Agency U-2 mission from an aircraft carrier. Although the idea of using a floating airbase to avoid political sensitivity proved feasible, the cost did not. Aircraft carriers are enormously expensive to operate and require an entire flotilla of vessels to protect and service them. The movement of large numbers of big ships is difficult to conceal and cannot be hastily accomplished, while the deployment of a solitary U-2 to a remote airfield can take place overnight.

A New Version of the U-2

By the summer of 1966, the number of flyable Agency U-2s had dwindled to six—two at Detachment H in Taiwan and four at Detachment G in California—with three more at Lockheed undergoing repair. The Agency had originally ordered 20 U-2s in 1954-55 (the Air Force had purchased another 31 of these planes), and Kelly Johnson's crew at the Skunk Works had managed to assemble four additional craft for the Agency from leftover spare parts and usable sections of crashed aircraft. This brought the total number of U-2s acquired by the Agency to 24, for an average cost of $812,500 each.

At this point, the DCI and the Secretary of Defense on 1 August 1966 decided to place an order with Lockheed for eight more aircraft to be used in the Agency and Air Force U-2 programs—a completely new version of the aircraft. Kelly Johnson had been working on ways to improve the performance of the U-2 since early 1965 because he was concerned that all the modifications and additions to the aircraft over the years had made it so heavy that it had lost almost half of its range and several thousand feet in cruising altitude.[71] The new model, known as the U-2R, had a longer fuselage and a wider wingspan than the original U-2. The U-2R's wings were 103 feet long with 1,000 square feet of lifting surface, in contrast to the U-2C's 80-foot wings with only 600 square feet. The longer fuselage of the U-2R made it possible to provide two pressurized bays with an additional 2.2 cubic meters of equipment space and also achieve a better weight distribution. The net result of all these improvements was a much better performing aircraft. No longer did the U-2 pilot have to worry about keeping the aircraft's speed at altitude within a 6-knot window in the stall/buffet corner of the flight envelope. The envelope was now extended to 20 knots, which greatly improved flyability.

[71] Johnson, "Log for Project X," 2 February 1965, June to October 1965, 20 October 1965; Johnson, "U-2R Log," January to August 1966.

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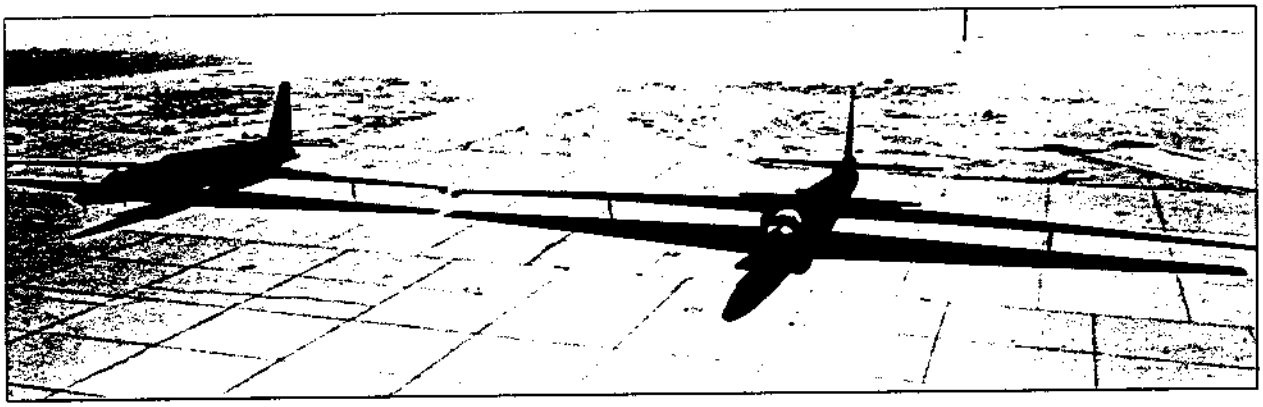

U-2C and U-2R

The U-2R used the upgraded Pratt & Whitney J75/P-13B engine and was able to fly higher—in excess of 74,000 feet—and faster—Mach 0.72 (410 knots), which is 12 knots faster than the U-2C. When flying at the higher altitude, however, the U-2R's range was less than the U-2C's. The restart capability of the P-13B engine was significantly better than the P-13A power plant. As a result, the U-2R could be restarted at 54,000 feet, which was 10,000 feet higher than the U-2C. Francis Gary Powers was one of the Lockheed test pilots who checked out this new aircraft when it first took to the air on 28 August 1967. The last of the U-2Rs was delivered on 11 December 1968.

The increased performance of the U-2R did not come cheaply. At $7.1 million per aircraft, the new models cost almost 10 times as much as the original U-2s. Much of the increased cost was due to inflation, but some was the result of technological advances. The initial order for eight of the new version of the U-2 was followed on 23 November 1966 by an order from the DCI and the Secretary of Defense for four more. This brought the total number of U-2Rs purchased by the CIA and the Air Force to 12.[72]

In addition to a new aircraft, the U-2 program received a new camera. Agency managers felt that, because the B camera was now 10 years old, the U-2R needed a camera that incorporated the many important advances that had occurred in recent years. The 112B—the modified version of the satellite program's stereo camera that had been used in the U-2G—had not proved totally successful. Despite its stereo capability, this camera's shorter focal length could not provide

[72] *OSA History*, chap. 5, pp. 34-36 (TS Codeword); "OSA History-2," chap. 5, pp. 1-2 (TS Codeword).

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the scale of imagery needed to obtain the highly technical data desired by analysts. As a result, the Office of Special Activities asked the Hycon Manufacturing Company of Pasadena, California, to adapt its successful high-resolution 48-inch 9- by 9-inch format camera developed for the OXCART aircraft for use in the U-2R. This camera was actually a very advanced version of the original B camera with a new lens designed by James Baker. The new camera was designed to resolve objects smaller than 4 inches.

Hycon began work on the HR-333 camera in 1966. Unlike the OXCART camera, the new unit was to use the split 18- by 18-inch format of the B camera, so the lens had to be redesigned. James Baker's contribution to this effort was a 48-inch f/5.6 system that provided remarkably sharp imagery. Hycon completed the camera in time for it to be installed in the first U-2Rs delivered to the Agency in 1968; it is known as the H camera.[73]

Replacement of the Original U-2s With U-2Rs

As the new U-2Rs began coming off the production line at Lockheed in the autumn of 1968, CIA and the Department of Defense had to decide who would get the new aircraft. At a meeting on 13 November, DCI Richard Helms and Secretary of Defense Robert McNamara agreed that the Air Force and the Agency would each get six U-2Rs. The six older U-2s remaining from the original 1954-55 production were to be kept in flyable condition and be used as replacements if newer models were lost.

Despite the greatly increased capabilities of the new model of the U-2, the era of overflights of hostile territory was over. The U-2R would have six years of useful service with the Agency, but its missions did not include penetration flights over hostile territory.

THE FINAL YEARS OF THE U-2

When the OXCART's brief operational career with the Agency ended in 1968, the U-2 was once again the center of the Agency's manned reconnaissance program. But by this time, reconnaissance aircraft had declined in importance as collection systems. Overflights were a thing of the past. Although Project TACKLE U-2s with Nationalist Chinese

[73] "OSA History-2," chap. 5, pp. 10-12.

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pilots were still flying missions targeted against the People's Republic of China, these missions did not overfly PRC territory. Increasingly, Agency U-2s flew missions that did not involve intelligence collection requirements.

Support to Other Agencies

Beginning in 1964, the Agency conducted a program known as RED DOT for the Department of Defense. RED DOT involved the development and testing of various color, black and white, and infrared films, emulsions, and processing techniques for use in manned and unmanned high-altitude reconnaissance systems. From 1968 until 1974, Detachment G U-2s photographed areas within the United States that were analagous to portions of the Soviet Union in order to test films and techniques for spotting certain targets. This analogous filming was particularly valuable in connection with agricultural areas and nuclear test sites.

Some U-2 missions supported agencies outside the intelligence community. In 1968 and 1969, Detachment G U-2s flew high-altitude photographic missions in conjunction with the Apollo VII and IX spaceflights in response to a NASA request. These flights provided photography of the western United States for comparison with the photography taken by the Apollo crews. The Department of the Interior also requested U-2 support in early 1969 to help determine the extent of damage caused by a leak in an offshore oil well in California's Santa Barbara Channel. After preliminary assessment of the film at NPIC, the mission photography was given to the US Geological Survey for further study.

Also in early 1969, Detachment G began providing coverage of the western United States at the request of the Department of Commerce. U-2s filmed the Sierra snowfield to aid hydrologists in forecasting snowmelt and flooding potentials. Later that year, Detachment G supported the Office of Emergency Preparedness by photographing 61,000 square miles of the southern United States as part of a Hurricane Baseline Survey. These photographs could be used for future damage assessment following a major hurricane. A subsequent mission in fiscal year 1971 continued the Hurricane Baseline Survey by photographing the Gulf Coast. When a major earthquake struck the Los Angeles area on 9 February 1971, Detachment G U-2s flew four sorties to obtain damage-assessment photos.[74]

[74] Ibid., chap. 3, pp. 3-29 (TS Codeword).

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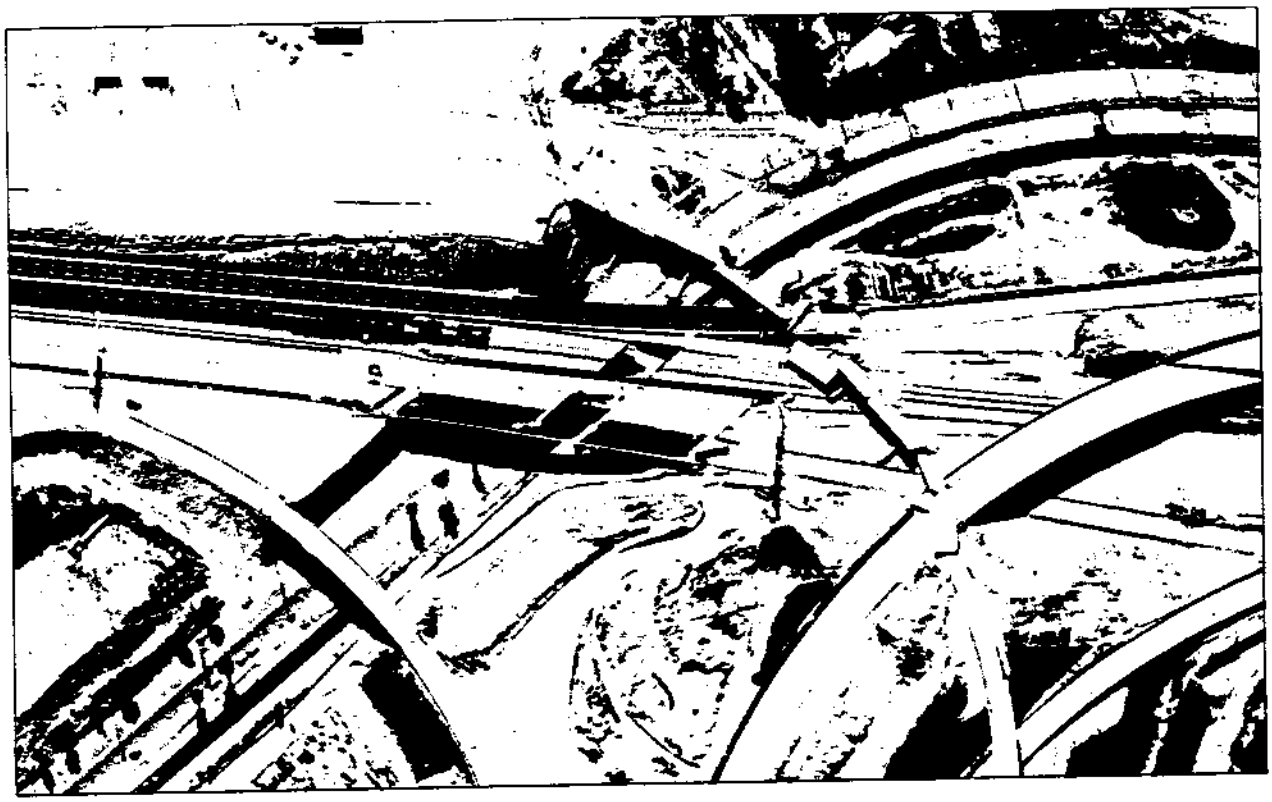

Earthquake damage, San Fernando Valley, 1971

Subsequent missions in support of Federal agencies included COMPASS TRIP in fiscal year 1973, when Agency U-2s photographed poppy fields that had been planted by the Bureau of Narcotics in order to provide a standard for comparison with satellite imagery. In the following year, U-2s assisted the Corps of Engineers in conducting a geological survey.

Overseas Deployment Exercises and Missions

With the exception of the Chinese Nationalist–piloted U-2s of Detachment H, all of the Agency's U-2 assets were concentrated in Detachment G in California. To test the ability of Detachment G to respond to a crisis in Europe or the Middle East, the Agency staged an overseas deployment exercise known as SCOPE SAINT each year (unless there was an actual operational deployment, as was the case in 1970, 1973, and 1974). The first of these exercises, SCOPE SAINT–I, took place on 9 October 1968, when Detachment G deployed a U-2G to the [redacted] The U-2 conducted several training flights and then returned to California. SCOPE SAINT–II followed in April 1969 and demonstrated the feasibility of employing a C-141 aircraft to accompany a

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U-2 in flight to its destination. The C-141 carried support equipment to the [redacted] In October 1969, the third of these exercises took place at a different location. [redacted]

No overseas deployment exercise was necessary in 1970, for elements of Detachment G actually deployed overseas to provide photography of the Middle East. At the time, President Nixon's National Security Adviser, Henry A. Kissinger, was mediating between the Arabs and Israelis in order to obtain a cease-fire along the Suez Canal, where a virtual undeclared war was taking place. Once agreement was reached in August, Kissinger promised both sides that the United States would monitor the agreed upon 32-mile pullback from the waterway. Originally, Kissinger intended for photosatellites to do the monitoring. One satellite was tasked to photograph the Suez Canal area on 10 August, but the quality of its imagery lacked the detail needed to discover such small targets as gun emplacements and jeeps.

In early August, Kissinger asked the Air Force to provide U-2s to overfly the Canal, but the Air Force demurred, saying it would take several weeks to move a U-2 detachment from Del Rio, Texas, to the Middle East. At this point, DCI Helms told an NSC meeting that the Agency's Detachment G at Edwards Air Force Base could deploy aircraft to [redacted] and begin filming the Suez area within the week, and it did. In fact, the first U-2 arrived in [redacted] only 71 hours after receiving notification to deploy. Between 9 August and 10 November 1970, Agency U-2s flew 29 missions over the cease-fire zone as part of Project EVEN STEVEN. Most flights used the B camera, but 12 were equipped with the new, high-resolution H camera. The EVEN STEVEN U-2s also employed a dozen electronic-intelligence-collection packages, from System-X to System-XXIV. After 10 November 1970, Air Force SR-71s took over the task of photographing the cease-fire zone.[76]

The Middle East was again the cause of a Detachment G deployment in October 1973, when another Arab-Israeli war broke out. Two U-2s deployed to the [redacted] on 7 and 8 October 1973, to be ready for possible coverage of the conflict. Detachment G received no such tasking, however, and the last of the aircraft returned to California on 13 November. The 1973 war did

[75] Ibid., pp. 5-6, 10-11 (TS Codeword).

[76] Ibid., pp. 15-20 (TS Codeword).

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lead to the overseas deployment of Detachment G U-2s in 1974, when the CIA was tasked to monitor the Israeli-Egyptian and later the Israeli-Syrian disengagement areas. On 21 April 1974, a Detachment G U-2 with appropriate support elements arrived at Akrotiri, Cyprus, to conduct Operation OLIVE HARVEST. Between 12 May and 28 July, the detachment conducted six overflights of the disengagement areas. During these missions the electronic warning systems of the U-2 registered numerous radar lockons, but no surface-to-air missiles were fired. On 1 August 1974, responsibility for the OLIVE HARVEST missions as well as the aircraft itself came into the hands of the Air Force as part of the transfer of the entire Agency U-2 program at that time.[77]

The Phaseout of the Office of Special Activities

The Agency's U-2 program had been under review since the autumn of 1969 to determine if it should be continued along with the larger Air Force U-2 program. In December 1969, President Nixon decided to keep the Agency's program in existence through 1971 and asked for a formal review by the 40 Committee (the new name for the 303 Committee/Special Group). In August 1970, the committee recommended continuing the program through fiscal year 1972. On 12 August 1972, the 40 Committee again favored continuation of the CIA U-2 program. This recommendation was motivated primarily by a desire not to alienate the Nationalist Chinese Government by eliminating Project TACKLE. In June 1973, however, DCI James R. Schlesinger informed the 40 Committee that this project could be terminated without causing major difficulties with the Nationalist Chinese. On 30 August 1973, the 40 Committee approved the CIA's plans to terminate the U-2 program effective 1 August 1974. The Air Force would assume funding responsibility for the four U-2R aircraft assigned to the Agency and would take physical possession of them then or shortly thereafter. On 1 April 1974, Ambassador Walter P. McConaughy informed the Nationalist Chinese Government of the US intention to end the U-2 project, and the two countries then worked out a schedule for phasing out Project TACKLE.[78]

The transfer of all Agency U-2s to the Air Force eliminated Detachments G and H. Their parent organization, the Office of Special Activities, began its phaseout immediately thereafter. The 20-year career of the U-2 with the CIA had come to an end.

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[77] Ibid., pp. 31-34 (TS Codeword).

[78] Ibid., chap. 10, pp. 1-4 (TS Codeword).

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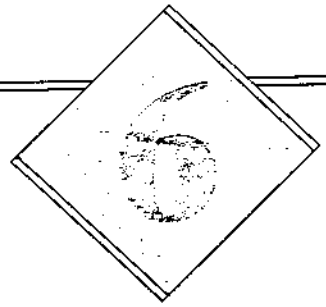

The U-2's Intended Successor: Project OXCART, 1956-1968

Before the U-2 became operational in June 1956, CIA project officials had estimated that its life expectancy for flying safely over the Soviet Union would be between 18 months and two years. After overflights began and the Soviets demonstrated the capability of tracking and attempting to intercept the U-2, this estimate seemed too optimistic. By August 1956, Richard Bissell was so concerned about the U-2's vulnerability that he despaired of its ability to avoid destruction for six months, let alone two years.

To extend the U-2's useful operational life, project officials first attempted to reduce the aircraft's vulnerability to detection by Soviet radars. Project RAINBOW's efforts to mask the radar image of the U-2 not only proved ineffective, but actually made the aircraft more vulnerable by adding extra weight that reduced its maximum altitude. Because Soviet radar operators continued to find and track U-2s equipped with antiradar systems, the CIA canceled Project RAINBOW in May 1958.

Long before the failure of Project RAINBOW, Richard Bissell and his Air Force assistant, Col. Jack A. Gibbs, had begun to look for a more radical solution to the problem of Soviet radar detection—an entirely new aircraft. In the late summer of 1956, the two officials visited a number of airframe contractors in a search for new ideas. Among the more unusual was Northrop Aviation's proposal for a gigantic aircraft with a very-high-lift wing. Because it would not be made of metal, the wing would require a type of bridge truss on its upper side to give it rigidity. The proposed aircraft would achieve

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altitudes of 80,000 to 90,000 feet but only at subsonic speeds, just enough to keep it airborne.[1]

The slow-flying Northrop design did not solve the problem of radar detection, and in 1957 the emphasis switched to supersonic designs. In August 1957, the Scientific Engineering Institute (SEI), a CIA proprietary firm that had been working on ways to reduce the U-2's vulnerability to radar, began to investigate the possibility of designing an aircraft with a very small radar cross section. SEI soon discovered that supersonic speed greatly reduced the chances of detection by radar.[2] From this point on, the CIA's attention focused increasingly on the possibility of building an aircraft that could fly at both extremely high speeds and high altitudes while incorporating the best ideas in radar-absorbing or radar-deflecting techniques.

THE EVALUATION OF DESIGNS FOR A SUCCESSOR TO THE U-2

By the autumn of 1957, Bissell and Gibbs had collected so many ideas for a successor to the U-2 that Bissell asked DCI Dulles for permission to establish an advisory committee to assist in the selection process. Bissell also felt that the support of a committee of prominent scientists and engineers would prove useful when it came time to ask for funding for such an expensive project. Edwin Land became the chairman of the new committee, which included some of the scientists and engineers who had served on previous advisory bodies for overhead reconnaissance: Edward Purcell, Allen F. Donovan, H. Guyford Stever, and Eugene P. Kiefer. The Air Force's chief scientist, Courtland D. Perkins, was also a member. The committee first met in November 1957 and held six more meetings between July 1958 and the late summer of 1959. The meetings usually took place in Land's Boston office and almost always included the Air Force's Assistant Secretary for Research and Development, Dr. Joseph V. Charyk, and his Navy counterpart, Garrison Norton. Designers from several aircraft manufacturers also attended some of the meetings.[3]

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[1] Donovan interview (S).

[redacted] "The OXCART Story," *Studies in Intelligence* 15 (Winter 1971):2 (S).

[3] Clarence L. Johnson, Report No. SP-1362, "History of the OXCART Program," Lockheed Aircraft Corporation, Burbank, CA, 1 July 1968, p. 1 (TS Codeword).

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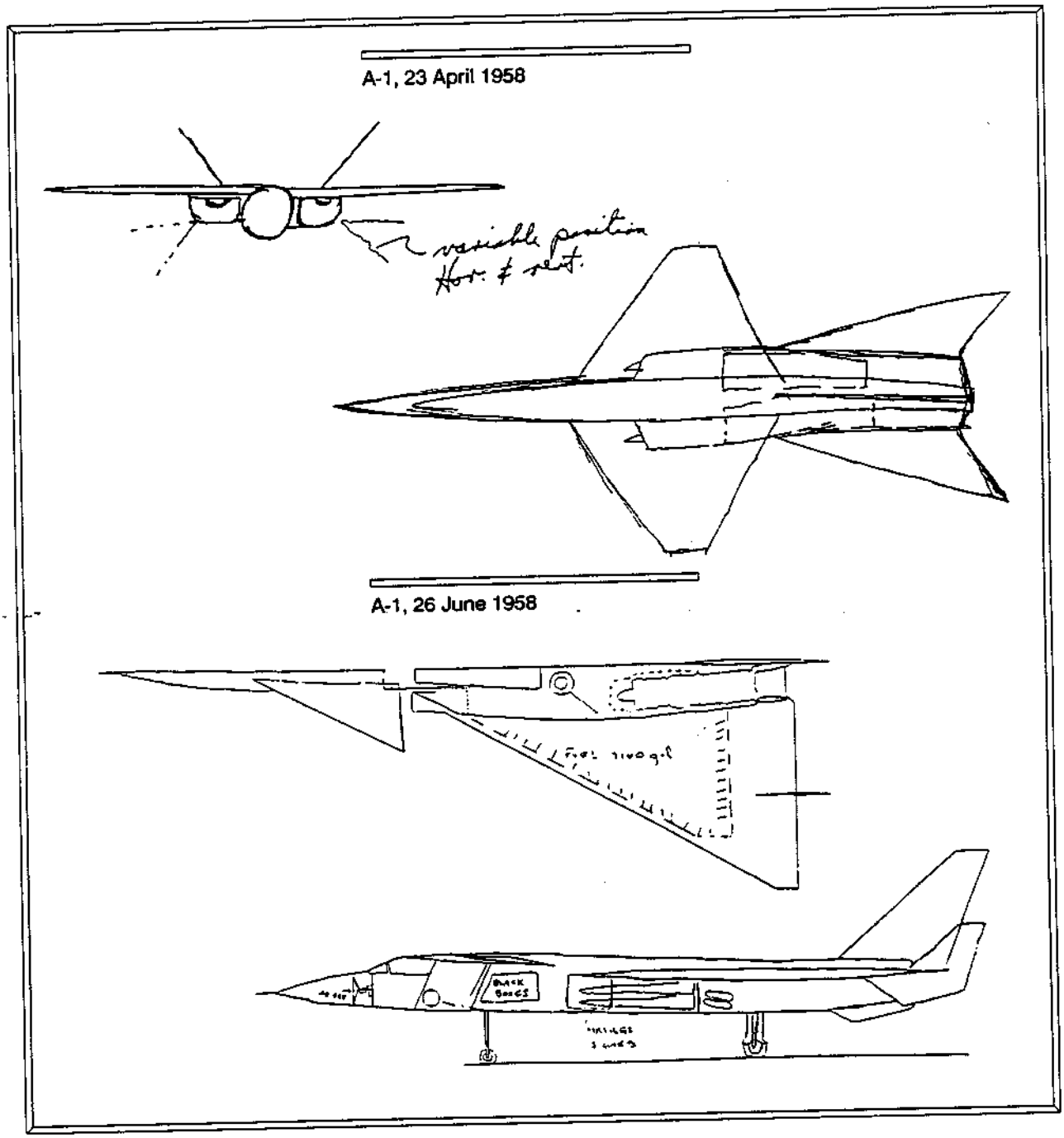

Johnson's first drawing of the "U-3" (A-1); revised version of the A-1

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The two most prominent firms involved in the search for a new aircraft were Lockheed, which had designed the successful U-2, and Convair, which was building the supersonic B-58 "Hustler" bomber for the Air Force and also working on an even faster model known as the B-58B "Super Hustler." Early in 1958, Richard Bissell asked officials from both firms to submit designs for a high-speed reconnaissance aircraft. During the spring and summer of 1958, both firms worked on design concepts without government contracts or funds.

Following extended discussions with Bissell on the subject of a supersonic successor to the U-2, Lockheed's Kelly Johnson began designing an aircraft that would cruise at Mach 3.0 at altitudes above 90,000 feet. On 23 July 1958, Johnson presented his new high-speed concept to Land's advisory committee, which expressed interest in the approach he was taking. At the same meeting, Navy representatives presented a concept for a high-altitude reconnaissance vehicle that examined the possibility of developing a ramjet-powered, inflatable, rubber vehicle that would be lifted to altitude by a balloon and then be propelled by a rocket to a speed where the ramjets could produce thrust. Richard Bissell asked Johnson to evaluate this concept, and three weeks later, after receiving more details from Navy representatives, Kelly Johnson made some quick calculations that showed that the design was impractical because the balloon would have to be a mile in diameter to lift the vehicle, which in turn would need a wing surface area greater than one-seventh of an acre to carry the payload.[4]

By September 1958, Lockheed had studied a number of possible configurations, some based on ramjet engines, others with both ramjets and turbojets. Personnel at Lockheed's Skunk Works referred to these aircraft concepts as "Archangel-1," "Archangel-2," and so forth, a carryover from the original nickname of "Angel" given to the U-2 during its development. These nicknames for the various designs soon became simply "A-1," "A-2," etc.

In September 1958, the Land committee met again to review all the concepts then under consideration and to winnow out the few that were most practicable. Among the concepts rejected were the Navy's proposal for an inflatable, ramjet-powered aircraft, a Boeing proposal for a 190-foot-long hydrogen-powered inflatable aircraft, and a

[4] Clarence L. Johnson, "Development of the Lockheed SR-71 Blackbird," *Studies in Intelligence* 26 (Summer 1982):4 (U); Johnson, "Archangel log," 23 July 1958, 14 August 1958.

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Lockheed design for a hydrogen-powered aircraft (the CL-400). The committee examined two other Kelly Johnson designs at this meeting—a tailless subsonic aircraft with a very-low-radar cross section (the G2A) and a new supersonic design (the A-2)—and did not accept either one, the former because of its slow speed and the latter because of its dependence on exotic fuels for its ramjets and its overall high cost. The committee approved the continuation of Convair's work on a ramjet-powered Mach 4.0 "parasite" aircraft that would be launched from a specially configured version of the B-58B bomber. The design was termed a parasite because it could not take off on its own but needed a larger aircraft to carry it aloft and accelerate it to the speed required to start the ramjet engine. The Convair design was called the FISH.[5]

Two months later, after reviewing the Convair proposal and yet another Lockheed design for a high-speed reconnaissance aircraft (the A-3), the Land committee concluded in late November 1958 that it would indeed be feasible to build an aircraft whose speed and altitude would make radar tracking difficult or impossible. The committee, therefore, recommended that DCI Dulles ask President Eisenhower to approve further pursuit of the project and to provide funds for additional studies and tests.[6]

On 17 December 1958, Allen Dulles and Richard Bissell briefed the President on the progress toward a successor to the U-2. Also present were Land and Purcell from the advisory committee, Presidential Science Adviser James Killian, and Air Force Secretary Donald Quarles. DCI Dulles reviewed the results of the U-2 missions to date and stated his belief that a successor to the U-2 could be used all over the world and "would have a much greater invulnerability to detection."

Bissell then described the two competing projects by Lockheed and Convair, noting that the chief question at the moment was whether to use air launch or ground takeoff. The next phase, he added, would be detailed engineering, at the end of which it was proposed that 12 aircraft be ordered at a cost of about $100 million.

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[5] *OSA History*, chap. 20, p. 8 (TS Codeword); Johnson, "Archangel log," 17-24 September 1958.

[6] *OSA Chronology*, p. 21 (TS Codeword); [redacted] "OXCART Story," p. 3 (S); *OSA History*, chap. 20, p. 8 (TS Codeword); Johnson, "Archangel log," 12 November 1958.

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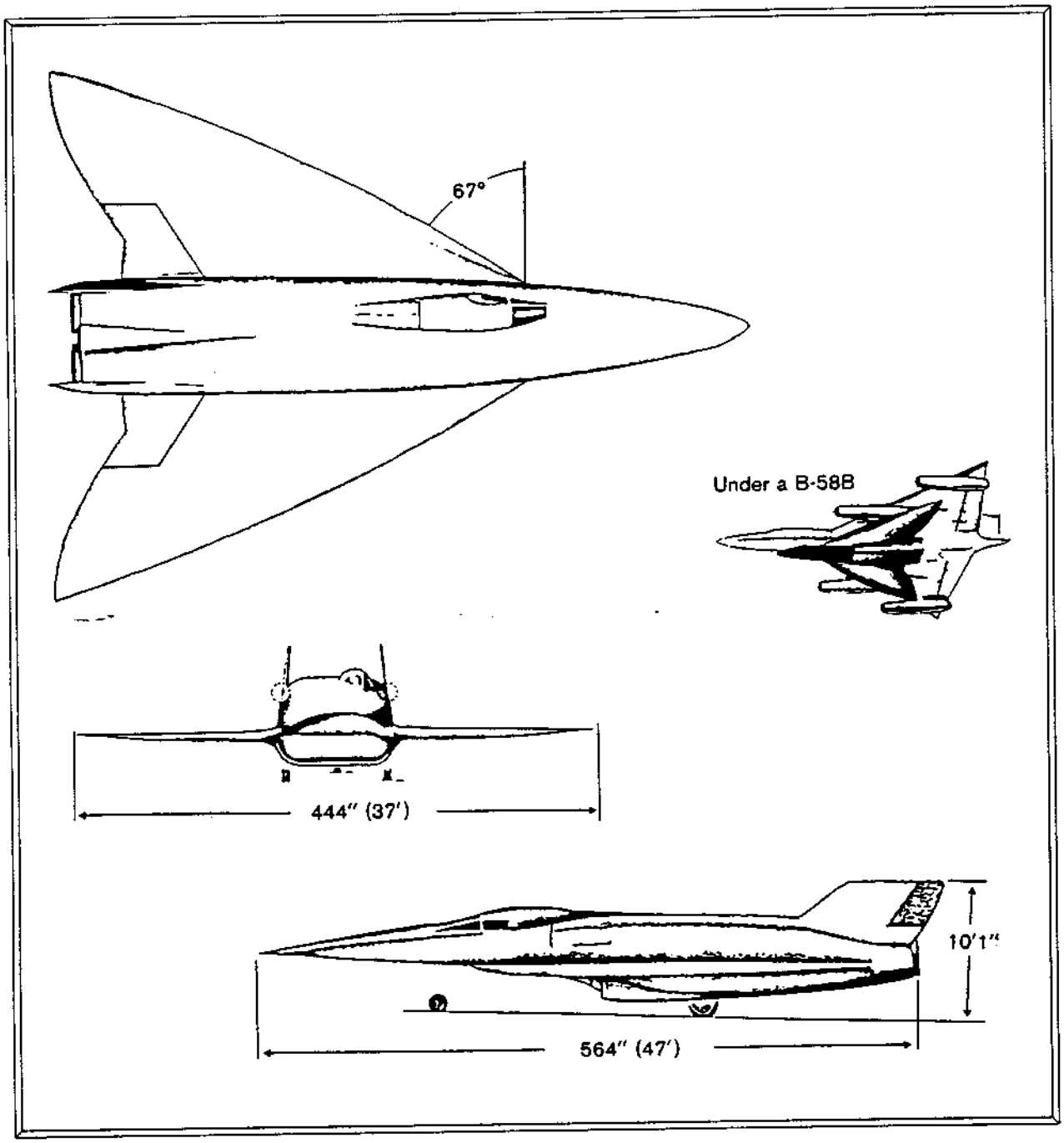

Convair FISH

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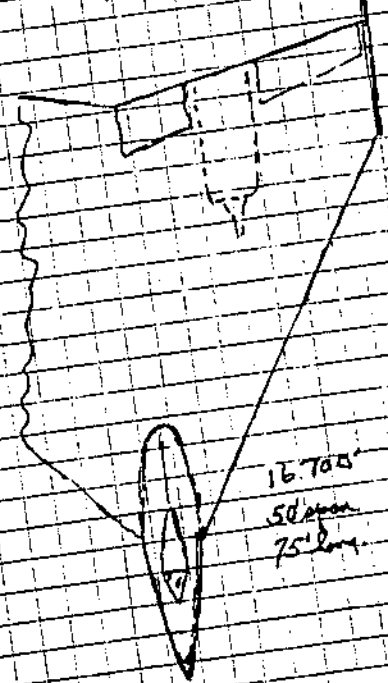
Kelly Johnson's A-2 Design

LOCKHEED AIRCRAFT CORP.
CALIFORNIA DIVISION

Prepared	Sept 20, 58	DATE	TITLE Try a Borane Job.	Page 11
Checked	CLJ			Model
Approved				Report No.

Use 10,000# airplane at 135,000' —
Try to eliminate fuselage except for cockpit & equip. bay

L/D = 6.0 to 5.5



Wing @ 1.32#	2200#
Tail (more area)	600
Engines - 2 @ 800#	1600
Gear (required now)	400
Instruments	60
Surface controls	300
Power supply	200
Electronics	150
Air Cond	250
Oxygen	50
Subtotal =	5810
Cockpit & Bay =	1000
Eject seat & furn =	150
Payload =	500
Subtotal =	7460
Fuel system - tanks =	500
	7460

Fuel load = 2000#

Range = $575 \times 6.0 \times \frac{3.0}{2.10} \times \log_e \frac{10,000}{8000} = 1090$ sq. mile

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Kelly Johnson's A-3 Design

Sept. 29 '58
CW

LOCKHEED AIRCRAFT CORP.
BURBANK, CALIFORNIA

Design of A-3.

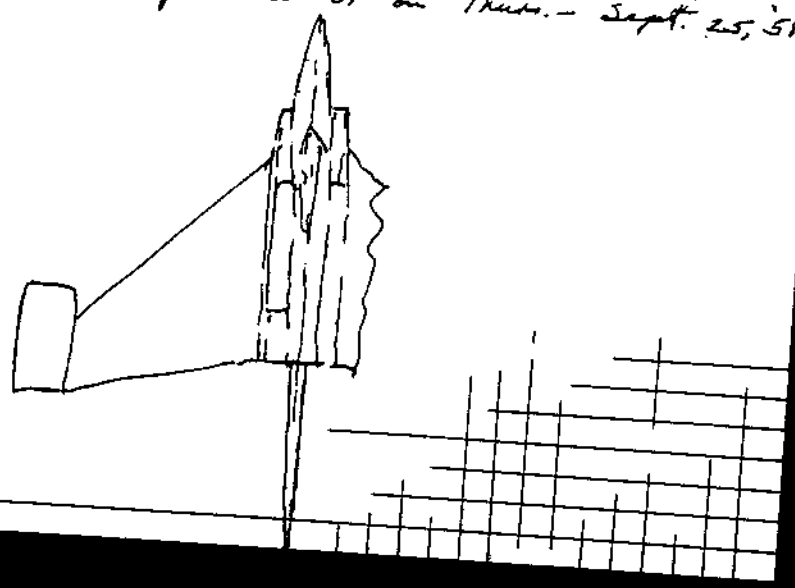
1

From previous work — a basic design of the following characteristics was derived (AAL trip - 3 pages)

Area — 500 ft²
~~Gross~~ wt. — 17,000 #
Wt. at 100,000' — 13,200
2 — A.B. JT-12A
2 — 30" Ram jets.
300 # payload.
M = 3.0 @ 100,000' (3.2?)

Basic concept — reduce radar c.s.

Data given to SP on Thurs. — Sept. 25, '58



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Although President Eisenhower supported the purchase of this type of aircraft, he questioned the plan to procure any before they had been tested. Promising that more thought would be given to the matter before such an order was placed, Secretary Quarles noted that CIA, the Defense Department, and the Bureau of the Budget were working on a funding plan for the project. The President suggested that the Air Force "could support the project by transferring some reconnaissance money." At the close of the meeting, Eisenhower asked the group to return after completing the next work phase to discuss further stages of the project with him.[7]

COMPETITION BETWEEN LOCKHEED AND CONVAIR

With funding for the proposed new type of aircraft now available, Richard Bissell asked Lockheed and Convair to submit detailed proposals. During the first half of 1959, both Lockheed and Convair worked to reduce the radar cross section of their designs, with assistance from Franklin Rodgers of the Scientific Engineering Institute. In pursuing his antiradar studies, Rodgers had discovered a phenomenon that he believed could be used to advantage by the new reconnaissance aircraft. Known as the Blip/Scan Ratio but also referred to as the Rodgers' Effect, this phenomenon involved three elements: the strength of a radar return, the altitude of the object being illuminated by the radar, and the persistence of the radar return on the radar screen (Pulse-Position Indicator display).

Most tracking radars in the late 1950s swept a band of sky 30° to 45° wide and 360° in circumference. Any object encountered in this area reflected the radar pulse in a manner directly proportional to its size—the larger the object, the stronger the returning radar signal. This return appeared on the cathode-ray tube of the radar screen as a spot or blip, and the persistence of this blip on the radar screen also depended on the strength of the radar return, with blips from larger objects remaining on the screen longer. During the late 1950s and early 1960s, a human radar operator watched the radar screen and kept track of the blips that indicated aircraft within the radar's field of view.

[7] Andrew J. Goodpaster, "Memorandum of Conference with the President, 17 December 1958, 10:26 a.m.," 22 December 1958, WHOSS, Alpha, DDEL (TS).

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Rodgers determined that a high-altitude object moving two to three times as fast as a normal aircraft would produce such a small blip with so little persistence that the radar operator would have great difficulty tracking it, if indeed he could even see it. Rodgers estimated that for an aircraft to take advantage of this Blip/Scan Ratio phenomenon it must fly at altitudes approaching 90,000 feet and have a radar cross section of less than 10 square meters, preferably not much over 5 square meters. However, for a Mach 3.0 aircraft to achieve such a small radar cross section, its designers would have to make many concessions in its structural design and aerodynamics.[8]

By the summer of 1959, both firms had completed their proposals. In early June, Lockheed submitted a design for a ground-launched aircraft known as the A-11. It would have a speed of Mach 3.2, a range of 3,200 miles, an altitude of 90,000 feet, and a completion date of January 1961. Kelly Johnson had refused to reduce the aerodynamics of his design in order to achieve a greater antiradar capability, and the A-11's radar cross section, although not great, was substantially larger than that of the much smaller parasite aircraft being designed by Convair.[9]

The Convair proposal called for a small, manned, ramjet-powered, reconnaissance vehicle to be air launched from one of two specially configured Convair B-58B Super Hustlers. The FISH vehicle, a radical lifting body with a very-small-radar cross section, would fly at Mach 4.2 at 90,000 feet and have a range of 3,900 miles. Two Marquardt ramjets would power its Mach 4.2 dash over the target area. Once the FISH decelerated, two Pratt & Whitney JT-12 turbojets would bring it back to base. The ramjet exit nozzles and wing edges would be constructed of Pyroceram, a ceramic material that could withstand the high temperatures of very high speeds and would absorb radiofrequency energy from radar pulses. Convair stated that the FISH could be ready by January 1961.[10]

Convair's proposal depended on two uncertain factors. First and foremost was the unproven technology of ramjet engines. At the time, no aircraft in existence could carry a large, ramjet-powered craft into the sky and then accelerate to sufficient speed for the ramjet engines

[8] Unnumbered Convair document on the Blip/Scan Ratio or Rodgers' Effect (TS).

[9] Johnson, "Archangel log," December 1958–July 1959.

[10] *OSA History*, chap. 20, p. 12 (TS Codeword); Convair Division, General Dynamics Corporation, "Project FISH Status Review," 9 June 1959 (S).

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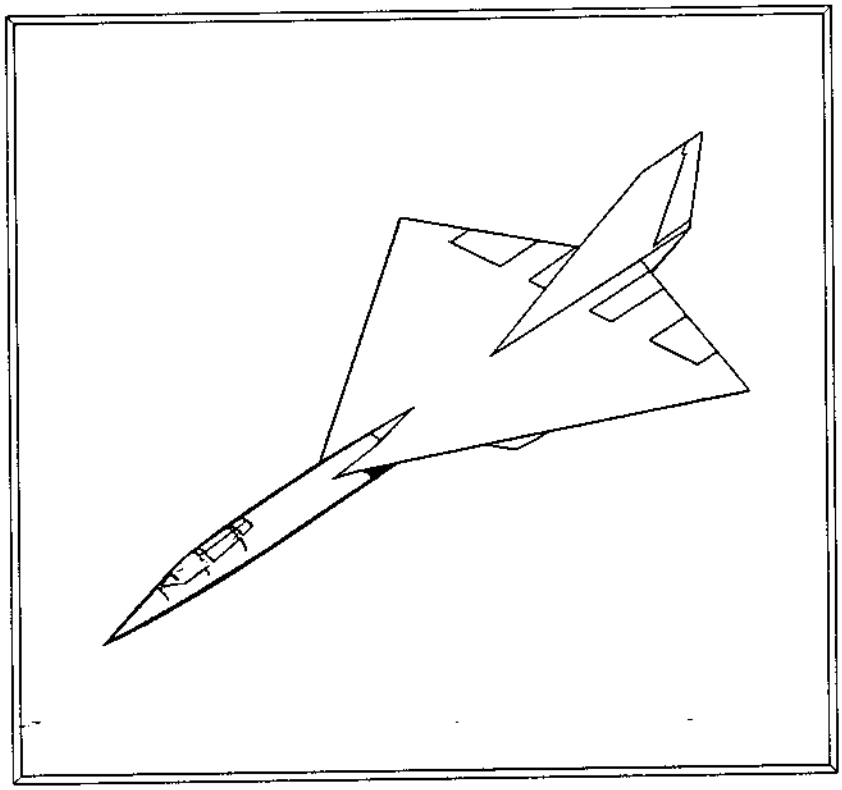

Lockheed A-11

to be ignited. Since ramjet engines had only been tested in wind tunnels, there was no available data to prove that these engines would work in the application proposed by Convair. The second uncertain factor was the B-58B bomber that was supposed to achieve Mach 2.2 before launching the FISH above 35,000 feet. This version of the B-58 was still in the design stage.

Convair's proposal suffered a major setback in June 1959, when the Air Force canceled the B-58B project. Conversion of the older, slower B-58A into a supersonic launching platform for the FISH was ruled out by the high cost and technical difficulties involved. Moreover, the Air Force was unwilling to part with two aircraft from the small inventory of its most advanced bomber. Even had the B-58B program not been canceled, however, the FISH proposal would probably not have been feasible. Convair engineers had calculated that the added weight of the FISH would prevent the B-58B from achieving the speed required to ignite the parasite aircraft's ramjet engines.

The Convair proposal was therefore unusable, but the Lockheed design with its high radar cross section was also unacceptable to the Land committee. On 14 July 1959, the committee rejected both

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designs and continued the competition. Lockheed continued to work on developing a design that would be less vulnerable to detection, and Convair received a new CIA contract to design an air-breathing twin-engine aircraft that would meet the general specifications being followed by Lockheed.[11]

Following recommendations by the Land committee, both Lockheed and Convair incorporated the Pratt & Whitney J58 power plant into their designs. This engine had originally been developed for the Navy's large, jet-powered flying boat, the Glenn L. Martin Company's P6M Seamaster, and was the most powerful engine available. In 1958 the Navy had canceled the Seamaster program, which had left Pratt & Whitney without a buyer for the powerful J58 engine.[12]

Although the Land committee had not yet found an acceptable design, it informed President Eisenhower on 20 July 1959 that the search was making good progress. Concerned about the U-2's vulnerability to detection and possible interception and aware that the photosatellite project was encountering significant problems, the President gave his final approval to the high-speed reconnaissance aircraft project.[13]

THE SELECTION OF THE LOCKHEED DESIGN

By the late summer of 1959, both Convair and Lockheed had completed new designs for a follow-on to the U-2. Convair's entry, known as the KINGFISH, used much of the technology developed for the F-102, F-106, and B-58, including stainless steel honeycomb skin, planiform wing design, and a crew capsule escape system, which eliminated the need for the pilot to wear a pressurized suit. The KINGFISH had two side-by-side J58 engines inside the fuselage, which significantly reduced the radar cross section. Two additional

[11] *OSA History*, chap. 20, p. 15 (TS Codeword).

[12] Cunningham interview, 4 October 1983 (TS Codeword); Joseph V. Charyk, interview by Donald E. Welzenbach, tape recording, Washington, DC, 5 December 1984 (TS Codeword).

[13] Andrew J. Goodpaster, "Memorandum of Conference with the President," 20 July 1959, WHOSS, ALPHA, DDEL (TS).

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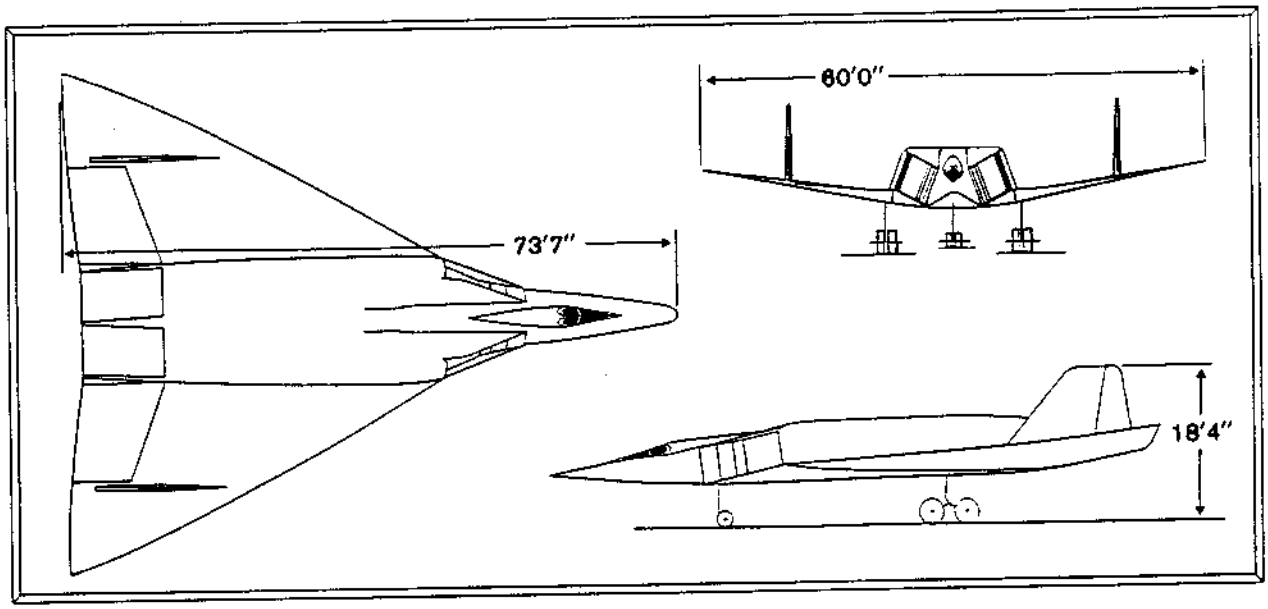

Convair KINGFISH

important design features that contributed to a small radar return were fiberglass engine inlets and wings whose leading edges were made of Pyroceram.[14]

Lockheed's new entry was much like its first, but with several modifications and a new designator, A-12. It, too, would employ two of the powerful J58 engines. Lockheed's major innovation in reducing radar return was a cesium additive in the fuel, which decreased the radar cross section of the afterburner plume. This improvement had been proposed by Edward Purcell of the Land committee. Desiring to save weight, Kelly Johnson had decided not to construct the A-12 out of steel. Traditional lightweight metals such as aluminum were out of the question because they could not stand the heat that would be generated as the A-12 flew at Mach 3.2, so Johnson chose a titanium alloy.

On 20 August 1959, Lockheed and Convair submitted their proposals to a joint Department of Defense, Air Force, and CIA selection panel. As the table shows, the two aircraft were similar in performance

[14] Convair Division, General Dynamics Corporation, "KINGFISH Summary Report," 1959 (S). Kelly Johnson was very skeptical of the Convair design, noting in the Archangel project log on 1-20 August 1959: "Convair have promised substantially reduced radar cross section on an airplane the size of our A-12. They are doing this, in my view, with total disregard for aerodynamics, inlet and afterburner performance."

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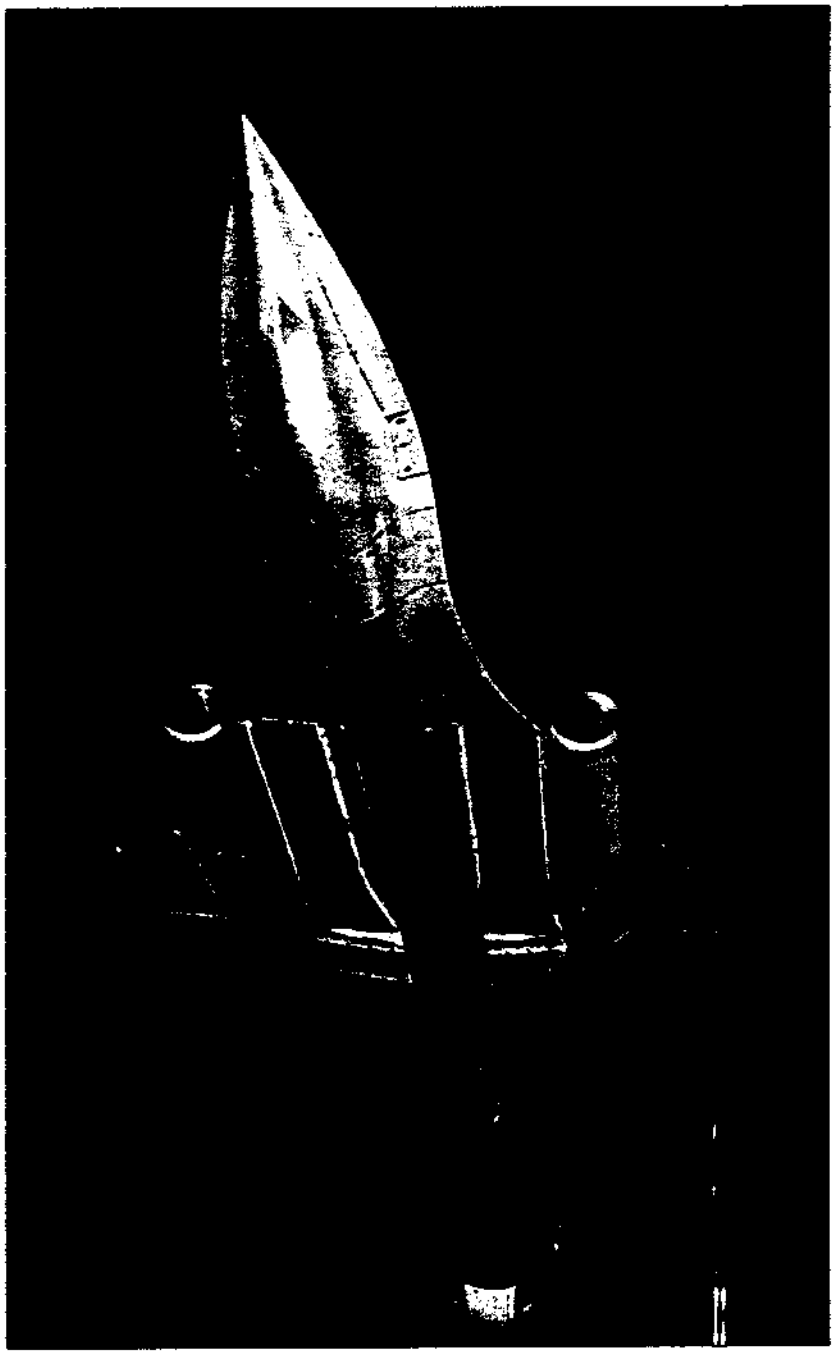

Wind tunnel test of A-12 model

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characteristics, although the Lockheed design's specifications were slightly better in each category. The Lockheed design was also preferable in terms of overall cost. In the vital area of vulnerability to radar detection, however, the Convair design was superior. Its smaller size and internally mounted engines gave it a smaller radar cross section than the Lockheed A-12.[15]

Comparison of Lockheed and Convair Designs

	Lockheed A-12	Convair KINGFISH
Speed	Mach 3.2	Mach 3.2
Range (total)	4,120 nm	3,400 nm
Range (at altitude)	3,800 nm	3,400 nm
Cruising Altitude		
Start	84,500 ft.	85,000 ft.
Midrange	91,000 ft.	88,000 ft.
End	97,600 ft.	94,000 ft.
Cost summary (for 12 aircraft without engines)	$96.6 million	$121.6 million

Some of the CIA representatives initially favored the Convair KINGFISH design because of its smaller radar cross section, but they were eventually convinced to support the Lockheed design by the Air Force members of the panel, who believed that Convair's cost overruns and production delays on the B-58 project might be repeated in this new project. In contrast, Lockheed had produced the U-2 under budget and on time. Another factor favoring the A-12 was security. Lockheed had experience in running a highly secure facility (the Skunk Works) in which all of the key employees were already cleared by the Agency.

Despite its vote in favor of the Lockheed proposal, the selection panel remained concerned about the A-12's vulnerability to radar detection and therefore required Lockheed to prove its concept for reducing the A-12's radar cross section by 1 January 1960. On 14 September 1959, the CIA awarded a four-month contract to Lockheed

[15] *OSA History*, chap. 20, pp. 18-19 (TS Codeword).

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to proceed with antiradar studies, aerodynamic structural tests, and engineering designs. This research and all later work on the A-12 took place under a new codename, Project OXCART, established at the end of August 1959 to replace its more widely known predecessor, Project GUSTO.[16] The CIA's project manager for OXCART was John Parangosky, who had long been associated with the U-2 program.

EFFORTS TO REDUCE THE A-12'S RADAR CROSS SECTION

During the spring of 1959, Kelly Johnson's Skunk Works crew—which then numbered only 50—had begun building a full-scale mockup of the proposed aircraft. The mockup was to be tested for its radar cross section by Edgerton, Germeshausen & Grier (EG&G) in cooperation with the Scientific Engineering Institute at a small testing facility at Indian Springs, Nevada. Lockheed objected to this site because its pylon would not support the full-scale mockup and because the facilities were in full view of a nearby highway. On 10 September 1959, EG&G agreed to move its radar test facility to the former U-2 testing site at Area 51 of the Atomic Energy Commission's Nevada Proving Grounds.[17]

When the new radar test facility with its larger pylon was ready, Johnson put the A-12 mockup on a specially designed trailer truck that carried it from Burbank to Area 51. By 18 November 1959, the mockup was in place atop the pylon, and radar testing could begin. These tests soon proved that Lockheed's concept of shape, fuel additive, and nonmetallic parts was workable, but it would take more than 18 months of testing and adjustment before the OXCART achieved a satisfactory radar cross section.

It was in the course of this radar testing that the OXCART received its characteristic cobra-like appearance. Edward Purcell and Franklin Rodgers had come up with a theory that a continuously curving airframe would be difficult to track with a radar pulse because it would present few corner reflectors or sharp angles from which pulses could bounce in the direction of the radar. To achieve the continuously curving airframe, Kelly Johnson added thin, curved extensions to the engine housings and leading edges of the wings and

[16] Parangosky interview (S); *OSA History*, chap. 20, pp. 19-21 (TS Codeword).

[17] *OSA History*, chap. 20, p. 22 (TS Codeword).

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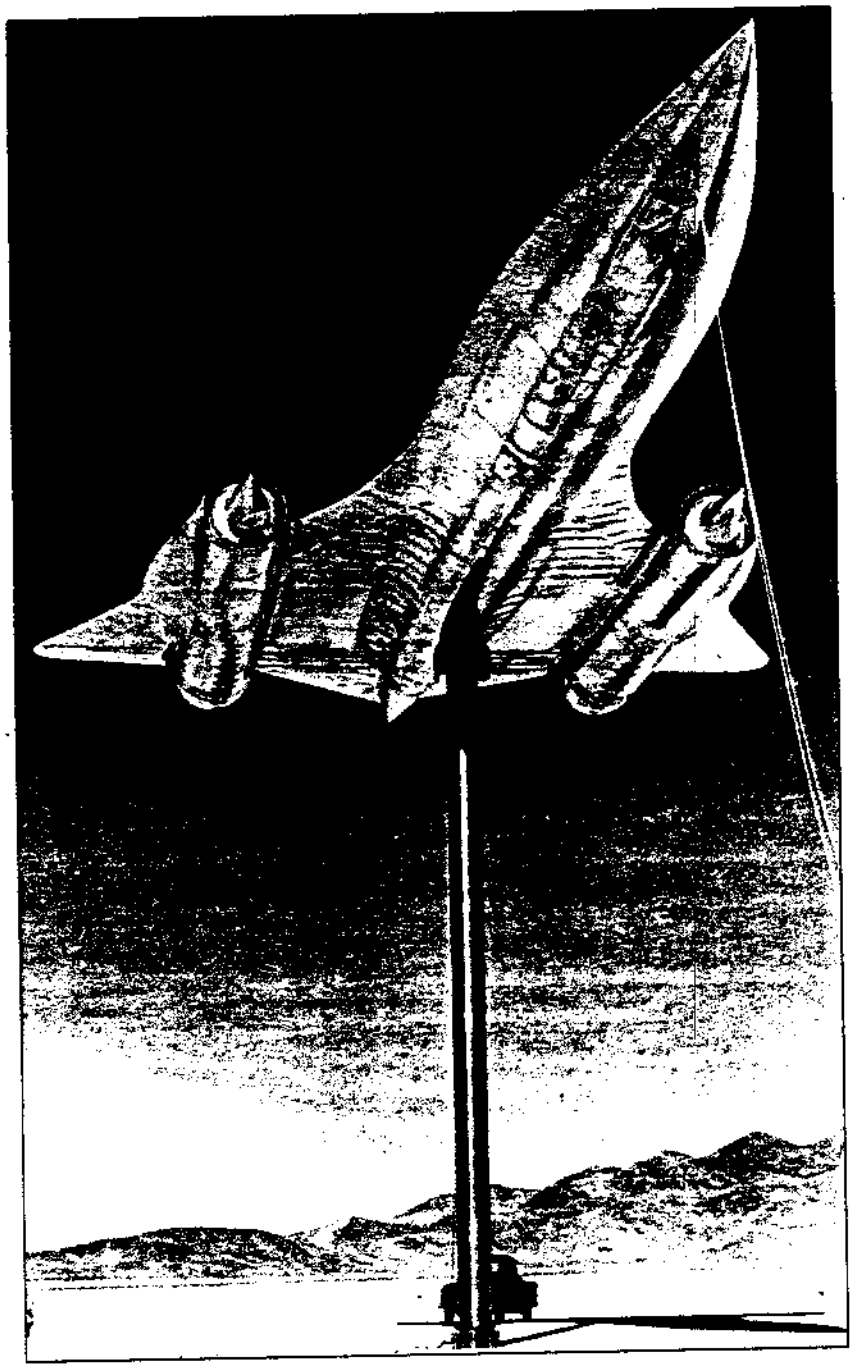

Radar testing of A-12 mockup

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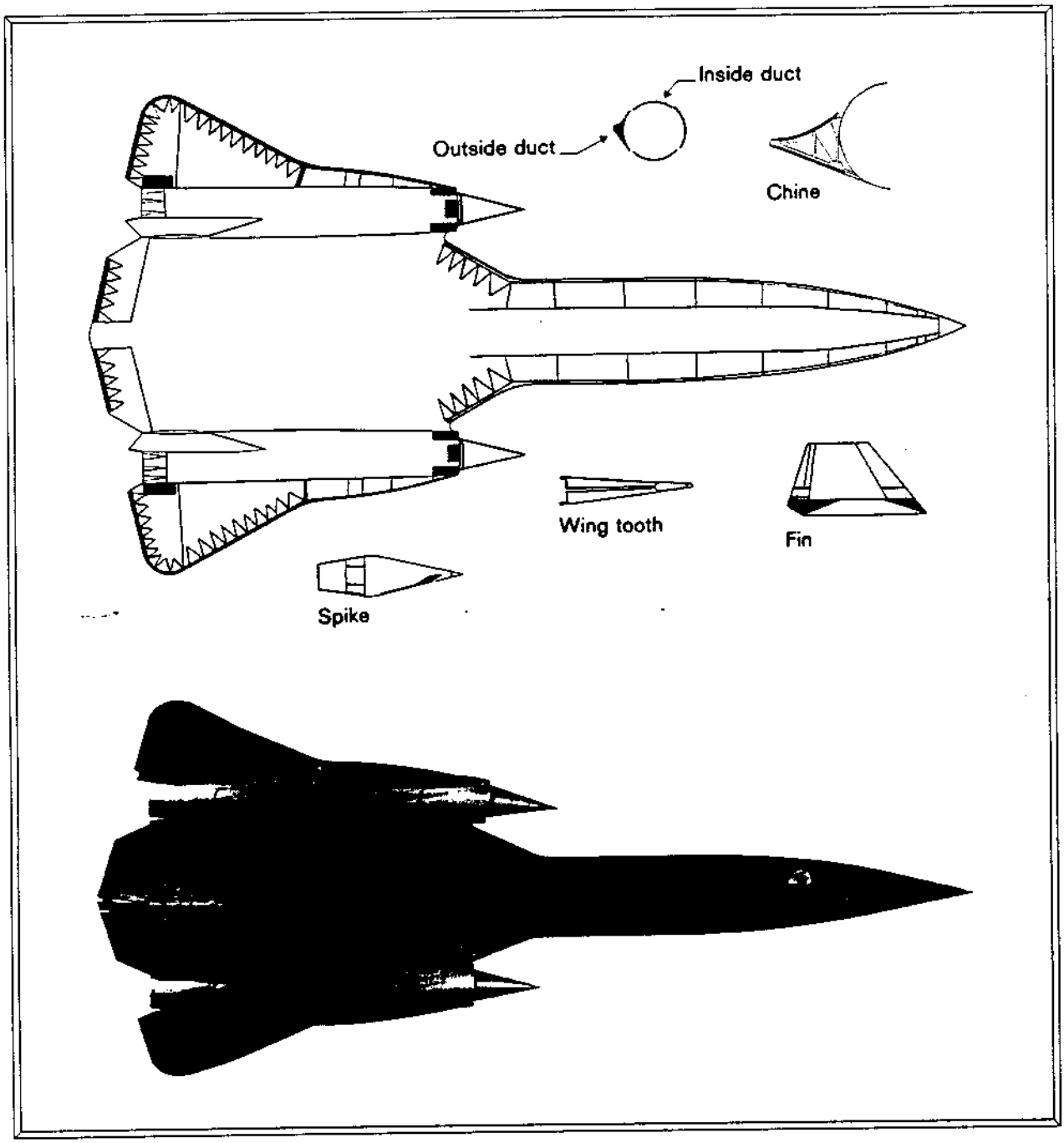

Antiradar features of the A-12

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eventually to the fuselage itself, creating what is known as a chine on each side. At first Johnson was concerned that these additions might impair the airworthiness of the plane, but wind tunnel testing determined that the chines actually imparted a useful aerodynamic lift to the vehicle. Because titanium was very brittle and therefore difficult to bend, Johnson achieved the necessary curvature by combining triangular-shaped pieces of titanium called fillets. These fillets were glued to the framework of the chines with a special adhesive, epoxy resin.

On later OXCART models the fillets were made from electrically resistive honeycomb plastic with a glass-fiber surface that would not melt at high speed. When struck by a radar pulse, the composite chines tended to absorb the pulse rather than reflect it. A similar approach was used for the leading edges of the wings. Again electrically resistive honeycomb material was fabricated into triangular shapes, known as wing teeth, and fitted into the titanium wings. Both the metal and composite fillets and teeth were held in place with the newly developed epoxy cements.

The greatest remaining area of concern in the A-12's radar cross section was the two vertical stabilizers. To reduce radar reflections, Kelly Johnson canted the stabilizers inward 15° and fabricated them out of resin-impregnated nonmetallic materials. Once these changes were completed, the only metal in each vertical stabilizer was a stainless steel pivot. The Air Force, which later ordered several versions of the OXCART aircraft for its own use, never adopted the laminated vertical stabilizers.[18]

THE OXCART CONTRACT

By mid-January 1960, Lockheed had demonstrated that its concept of shape, fuel additive, and nonmetallic parts would reduce the OXCART's radar cross section substantially. Richard Bissell, however, was very upset to learn that the changes had led to a reduction in the aircraft's performance, which meant it would not be able to attain the penetration altitude he had promised to President Eisenhower. Kelly Johnson then proposed to reduce the aircraft's weight by 1,000 pounds and increase the fuel load by 2,000 pounds, making it possible

[18] Johnson, "Development of Lockheed SR-71," pp. 6-7; *OSA History*, chap. 20, p. 35 (TS Codeword).

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to achieve the desired target altitude of 91,000 feet. Afterward, he noted in the project log: "We have no performance margins left; so this project, instead of being 10 times as hard as anything we have done, is 12 times as hard. This matches the design number and is obviously right." [19]

These changes satisfied Bissell, who notified Johnson on 26 January that the CIA was authorizing the construction of 12 of the new aircraft. The actual contract was signed on 11 February 1960. Lockheed's original quotation for the project was $96.6 million for 12 aircraft, but technological difficulties eventually made this price impossible to meet. Recognizing that fabricating an aircraft from titanium might involve unforeseen difficulties, the CIA included a clause in the contract that allowed costs to be reevaluated. During the next five years, this clause had to be invoked on a number of occasions as the A-12's costs soared to more than double the original estimate.[20]

NEW TECHNOLOGIES NECESSITATED BY OXCART'S HIGH SPEED

According to the specifications, the OXCART aircraft was to achieve a speed of Mach 3.2 (2,064 knots or 0.57 miles per second, which would make it as fast as a rifle bullet), have a range of 4,120 nautical miles, and reach altitudes of 84,500 to 97,600 feet. The new aircraft would thus be more than five times as fast as the U-2 and would go almost 3 miles higher.

One major disadvantage of the OXCART's great speed was high temperatures. Flying through the earth's atmosphere at Mach 3.2 heated portions of the aircraft's skin to almost 900°F. An aircraft operating at these high speeds and high temperatures required fuels, lubricants, and hydraulic fluids that had not yet been invented. The OXCART's fuel requirement called for a low-vapor-pressure fuel with a low volume at operating temperatures; the fuel would also be used as a heat sink to cool various parts of the aircraft. The J58 engines required lubricants that did not break down at the very high operating temperatures of Mach 3.2 speeds. This requirement led to the

[19] Johnson, "Archangel log," 21 January 1960.

[20] *OSA History*, chap. 20, pp. 27-29, 33-34, 36 (TS Codeword).

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OXCART production facilities

invention of synthetic lubricants. Lockheed also had to search long and hard for a hydraulic fluid that would not vaporize at high speed but would still be usable at low altitudes. Finding a suitable hydraulic pump was just as difficult. Kelly Johnson finally modified a pump that was being developed for North American's B-70 bomber project.[21]

Some of the greatest problems related to the high speeds and high temperatures at which the OXCART operated resulted from working with the material chosen for the airframe—titanium. After evaluating many materials, Johnson had chosen an alloy of titanium

[21] Johnson, "Development of Lockheed SR-71," pp. 11-12.

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OXCART pilot suit

(B-120) characterized by great strength, relatively light weight, and good resistance to high temperatures, but high in cost. As strong as stainless steel, titanium weighed slightly more than half as much. Obtaining sufficient quantities of titanium of a quality suitable for fabricating aircraft components proved very difficult because methods for maintaining good quality control during the milling of titanium were not fully developed. Up to 80 percent of the early deliveries from Titanium Metals Corporation had to be rejected. It was not until 1961, when company officials were informed of the objectives and high priority of the OXCART program, that problems with the titanium supply ended. Even after sufficient high-quality titanium was received, Lockheed's difficulties with the metal were not over. Titanium was so hard that tools normally used in aircraft fabrication broke; new ones therefore had to be devised. Assembly line production was not possible, and the cost of the program mounted well above original estimates.[22]

The high temperatures that the OXCART would encounter also necessitated planning for the pilot's safety and comfort because the inside of the aircraft would be like a moderately hot oven. To save

[22] [redacted] "OXCART Story," p. 5 (S); *OSA History*, chap. 20, p. 33 (TS Codeword).

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weight, Kelly Johnson did not attempt to insulate the interior of the aircraft. The pilot would therefore have to wear a type of space suit with its own cooling, pressure control, oxygen supply, and other necessities for survival.

DESIGNING THE OXCART'S CAMERAS

Providing cameras for the A-12 posed a number of unique problems. In late 1959, OXCART managers asked Perkin-Elmer, Eastman Kodak, and Hycon to develop three different photographic systems for the new aircraft. These cameras would provide a range of photography from high-ground-resolution stereo to extremely-high-resolution spotting data.

The Perkin-Elmer (P-E) entry, known as the Type-I camera, was a high-ground-resolution general stereo camera using an f/4.0 18-inch lens and 6.6-inch film. It produced pairs of photographs covering a swath 71 miles wide with an approximately 30-percent stereo overlap. The system had a 5,000-foot film supply and was able to resolve 140 lines per millimeter and provide a ground resolution of 12 inches.

To meet severe design constraints in the areas of size, weight, thermal environment, desired photographic resolution, and coverage, Perkin Elmer's Dr. Roderick M. Scott employed concepts never before used in camera systems. These included the use of a reflecting cube rather than a prism for the scanner, a concentric film supply and takeup system to minimize weight shift, a constant-velocity film transport that provided for the contiguous placement of stereo images on one piece of film, and airbars for the film transport and takeup systems.[23]

Eastman Kodak's entry, called the Type-II camera, was a high-convergent stereo device using a 21-inch lens and 8-inch film. It produced pairs of photographs covering a swath 60 miles wide with an approximately 30-percent stereo overlap. It had an 8,400-foot film supply and was able to resolve 105 lines per millimeter and provide a ground resolution of 17 inches.

[23] *OSA History*, chap. 20, p. 26 (TS Codeword); [redacted] "OXCART Story," p. 4 (S).

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The Hycon entry, designed by James Baker and known as the Type-IV camera, was a spotting camera with extremely-high-ground resolution. In fact, it was an advanced version of the highly reliable B camera developed for the original U-2 program. It used a 48-inch Baker-designed f/5.6 lens to focus images onto 9.5-inch film. Like the B camera it could provide seven frames of photography covering a swath 41 miles wide with stereo overlap on 19 miles of the swath. The Hycon camera carried the largest film supply of the three cameras, 12,000 feet. It was able to resolve 100 lines per millimeter and provide a ground resolution of 8 inches. A version of this 48-inch Hycon camera, known as the H camera, later saw service in U-2R aircraft.

Each of the three camera systems had unique capabilities and advantages, so all three were purchased for the OXCART. Before they could be effectively employed in the aircraft, however, new types of camera windows were needed. The OXCART's camera windows had to be completely free from optical distortion. Achieving this goal was difficult in a window whose exterior would be subjected to temperatures of 550°F while the interior surface would be only 150°F. After three years and the expenditure of $2 million in research and development, the Corning Glass Works, which had joined this effort as a Perkin-Elmer subcontractor, solved the problem of producing a camera window that could withstand tremendous heat differentials. Its quartz glass window was fused to the metal frame by an unprecedented process involving high-frequency sound waves.[24]

Later in the program, the OXCART received yet another camera system. In 1964 the Texas Instruments Corporation developed an infrared camera for Project TACKLE U-2s that were being used to determine whether the People's Republic of China was producing weapons-grade nuclear material. This stereo device, known as the FFD-4, was adapted for use in OXCART. The camera had an effective focal length of 50 inches and a 150-foot supply of 3.5-inch film. The camera's resolution was 3°C thermally, 1 milliradian spatially, and 60 feet on the ground. It could be used for both day and night imagery collection.

[24] Baker interview (S); [redacted] "OXCART Story," pp. 5-6 (S).

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CHOOSING PILOTS FOR OXCART

Just as in the U-2 program, the Air Force provided considerable support to Project OXCART, including training, fuel storage, and weather service. One of the most important areas of support was the provision of pilots; all of the OXCART pilots came from the Air Force. Prospective pilots had to be qualified in the most advanced fighters and be emotionally stable and well motivated. In contrast to 1955, when cover considerations had limited the U-2 pilot selection process to individuals with reserve commissions, the Air Force was able to devise personnel and cover procedures that enabled both regular and reserve officers to volunteer to become OXCART pilots. Because of the limited size of the A-12 cockpit, they had to be under six feet tall and weigh less than 175 pounds. Following extensive physical and psychological screening, 16 potential nominees were selected for intensive security and medical screening by the Agency. By the end of this screening in November 1961, only five individuals had been approved and had accepted the Agency's offer of employment on a highly classified project involving a very advanced aircraft. A second search and screening raised the number of pilots for the OXCART to eleven. The thorough screening process produced an elite group of pilots; all but one of these 11 officers eventually became generals. The new pilots transferred from military to civilian status and received compensation and insurance arrangements somewhat better than those of the U-2 pilots.[25]

SELECTION OF A TESTING SITE FOR THE OXCART

From the very beginning, it was clear that Lockheed could not test the OXCART aircraft at its Burbank facility, where the runway was too short and too exposed to the public. The ideal testing site would be far removed from metropolitan areas, away from civil and military airways, easily accessible by air, blessed with good weather, capable of accommodating large numbers of personnel, near an Air Force installation, and having a runway at least 8,000 feet long. But no such place was to be found.

After considering 10 Air Force bases programmed for closing, Richard Bissell decided to upgrade the Area 51 site in Nevada where the U-2 had been tested. Although its personnel accommodations, fuel

[25] [redacted] "OXCART Story," pp. 6-7 (S); *OSA History*, chap. 20, pp. 48-50 (TS Codeword); Geary interview with Pedlow (S).

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storage capacity, and runway length were insufficient for the OXCART program, the site's remote location would greatly ease the task of maintaining the program's security, and a moderate construction program could provide adequate facilities. Construction began in September 1960; a C-47 shuttle service ferried work crews from Burbank to Las Vegas and from Las Vegas to the site.

The new 8,500-foot runway was completed by 15 November 1960. Kelly Johnson had been reluctant to have a standard Air Force runway with expansion joints every 25 feet because he feared the joints would set up undesirable vibrations in the speedy aircraft. At his suggestion a 150-foot wide runway was therefore constructed of six 25-foot-wide longitudinal sections, each 150 feet long but staggered. This layout put most of the expansion joints parallel to the direction of aircraft roll and reduced the frequency of the joints.

Additional improvements included the resurfacing of 18 miles of highway leading to the base so that heavy fuel trucks could bring in the necessary fuel. The need for additional buildings on the base was met by the Navy. Three surplus Navy hangars were dismantled, moved, and reassembled on the north side of the base, and more than 100 surplus Navy housing buildings were also transported to Area 51. All essential facilities were ready in time for the forecast delivery date of the first A-12 on 1 August 1961.[26]

Unfortunately, this delivery date began to slip further and further into the future. Delays in obtaining the titanium, and later the J58 engines, caused the postponement of the final assembly of the first plane. Eventually, Kelly Johnson and Agency project officials decided to begin testing without waiting for the J58 engines by using Pratt & Whitney J75/19W engines, designed for the Convair F-106, to test the A-12 at altitudes up to 50,000 feet and at speeds up to Mach 1.6. Such a change, however, meant that the engine compartment of the first aircraft had to be reconfigured to accommodate the J75 engine. Lockheed hoped that this substitution would permit the delivery of the first A-12 by 22 December 1961 and its initial test flight by 27 February 1962.

Lockheed ran into so many technological problems with the OXCART effort that by October 1961 its costs had swollen to $136 million and were still climbing. Something obviously had to be done

[26] *OSA History*, chap. 20, pp. 39–40, 43, 51 (TS Codeword) [redacted] "OXCART Story," pp. 7-9 (S).

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to reduce expenditures. After much refiguring, project officials decided to decrease the number of deliverable aircraft. Amendment No. 11 to the contract reduced from 12 to 10 the number of A-12s, for a total cost of $161.2 million.[27]

The cancellation of these two A-12s was offset by an Air Force order for the development of a supersonic interceptor variant of the A-12 to serve as a replacement for the North American F-108A Rapier interceptor project, which had been canceled in late 1960. With the assistance of the Agency's west coast contracting office, the Air Force entered into an agreement with Lockheed to produce three AF-12 aircraft, based on the A-12 design but modified to carry a second crewman and three air-to-air missiles. This effort was called Project KEDLOCK. The AF-12 (later redesignated the YF-12A) was designed to intercept enemy bombers long before they reached the United States, and initial Air Force plans envisioned a force of up to 100 of these supersonic interceptors. In fact, only three of these planes were built and delivered during the 1963-64 time frame because Secretary of Defense McNamara canceled the program as a cost-cutting measure. The Air Force bore all of the costs of the YF-12A project; CIA was only involved in helping to write "black" contracts.[28]

Lockheed was not the only OXCART contractor having trouble containing costs; Pratt & Whitney was fighting an even bigger battle. In mid-1961, Pratt & Whitney overruns threatened to halt the entire OXCART project. At the suggestion of Cdr. William Holcomb in the office of the Chief of Naval Materiel, Richard Bissell asked the Navy to assist in funding the J58's development. After hearing Bissell and Holcomb's suggestion that the J58 might be used in future Navy aircraft, VAdm. William A. Schoech, Chief of the Navy Materiel Command that had originally financed the J58 engine, authorized the transfer of $38 million in end-of-year funds to the project, thus keeping the OXCART's head above water.[29] As it turned out, the J58 was never used in a Navy aircraft.

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[27] *OSA History*, chap. 20, pp. 46-47, 51-55 (TS Codeword); [redacted] "OXCART Story," p. 10 (S).

[28] *OSA History*, chap. 20, pp. 46-47 (TS Codeword).

[29] Parangosky interview (S); *OSA History*, chap. 20, p. 55 (TS Codeword). During this period, Kelly Johnson was very disappointed with Pratt & Whitney's work on the J58, particularly when they shocked him in September 1961 with the news that the engine would be overweight, underpowered, and late. Johnson, "Archangel log," 11 September 1961.

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DELIVERY OF THE FIRST OXCART

The first A-12, known as article 121, was assembled and tested at Burbank during January and February 1962. Since it could not be flown to the Nevada site, the aircraft had to be partially disassembled and put on a specially designed trailer that cost nearly $100,000. The entire fuselage, without the wings, was crated and covered, creating a load 35 feet wide and 105 feet long. To transport this huge load safely over the hundreds of miles to the site, obstructing road signs were removed, trees were trimmed, and some roadbanks had to be leveled. The plane left Burbank on 26 February 1962 and arrived at Area 51 two days later.

After the fuselage arrived in Nevada, its wings were attached and the J75 engines were installed, but the aircraft was still not ready to be tested. This new delay was caused by leaking fuel tanks, a problem that would never be solved completely. Because the A-12's high speeds heat the titanium airframe to more than 500°F, Lockheed designers had to make allowances for expansion. When the metal was cold, the expansion joints were at their widest. In the fuel tanks, these gaps were filled by pliable sealants, but the fuel for the A-12's engines acted as a strong reducing agent that softened the sealants, causing leaks. Thus, when fuel was first poured into the aircraft, 68 leaks developed. Lockheed technicians then stripped and replaced all the sealant, a tedious and time consuming procedure because the sealant required four curing cycles, each at a different temperature over a period of 30 to 54 hours. The engineers were never able to discover a sealant compound that was completely impervious to the jet fuel while remaining elastic enough to expand and contract sufficiently. The A-12's tanks continued to leak, so when it was fueled, it only received enough fuel to get airborne. The plane would then rendezvous with a tanker, top off its tanks, and immediately climb to operating altitude, causing the metal to expand and the leaks to stop.[41]

CHANGES IN THE PROJECT MANAGEMENT

Richard Bissell, whose concern for the viability of the U-2 in 1956 had led to the establishment of Project OXCART and who had directed its growth all along, was no longer in charge when the first

[41] *OSA History*, chap. 20, p. 62 (TS Codeword) [redacted] "OXCART Story," p. 11 (S).

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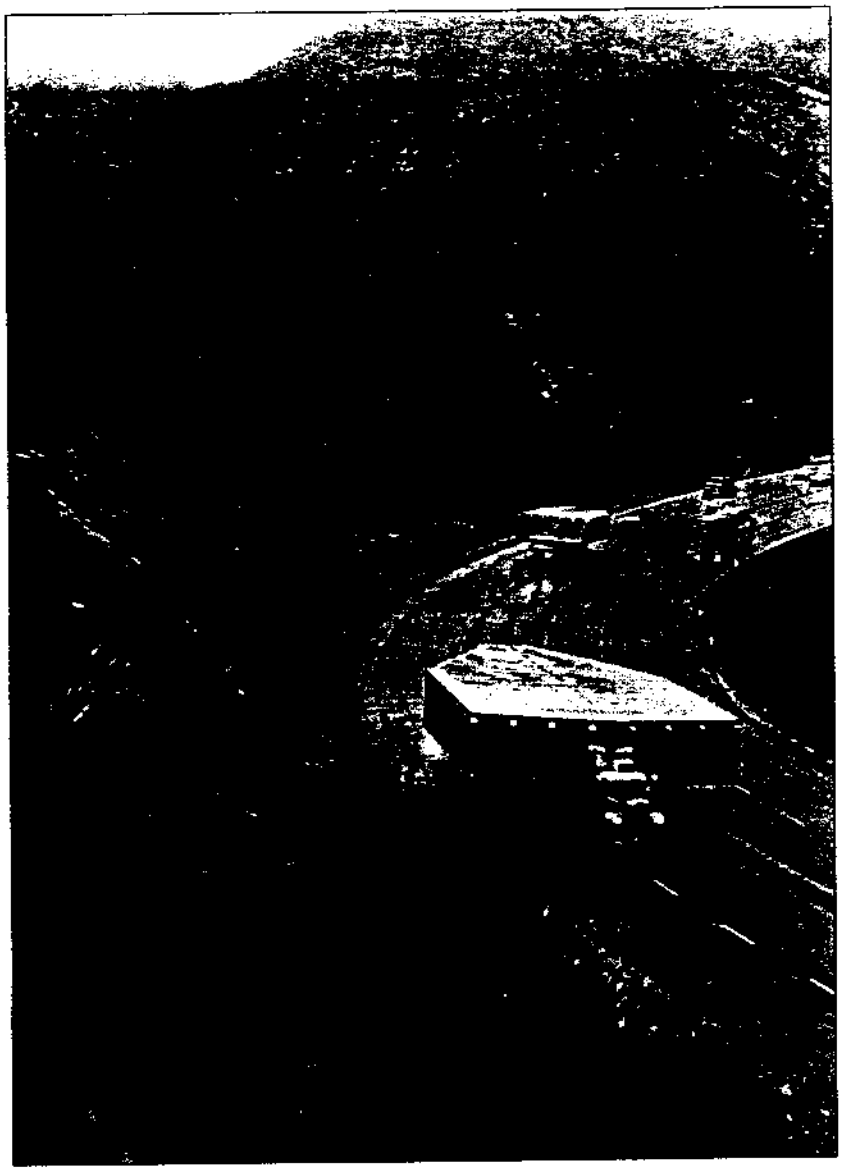

Delivery of OXCART aircraft to Area 51

OXCART aircraft took to the air. He resigned from the Agency in February 1962, and his departure brought a major reorganization of the reconnaissance program. The Development Projects Division of the Directorate of Plans, with its two aircraft (OXCART and U-2) and its satellite project, were transferred to the new Directorate of Research headed by Herbert (Pete) Scoville. The following year Scoville resigned and this Directorate was reorganized and its name changed to the Directorate of Science and Technology, with Albert (Bud) Wheelon, Jr. as its first head. The overhead reconnaissance

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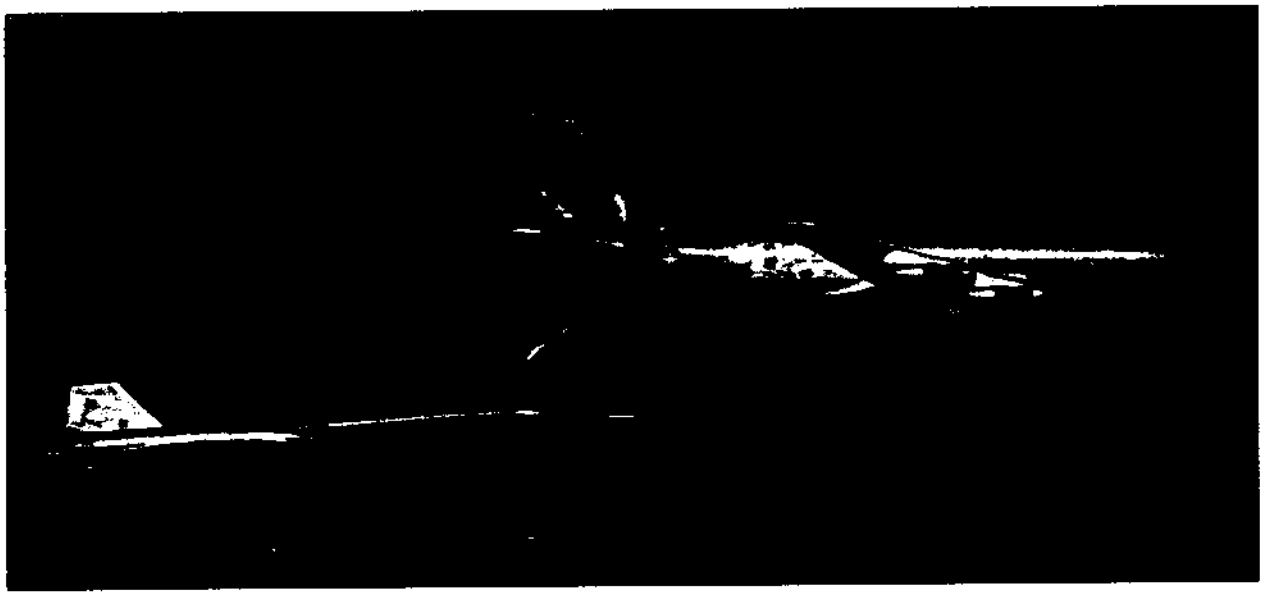

In-flight refueling of the OXCART

projects belonged to the Office of Special Activities, headed by Col. Jack C. Ledford, who now had the title of Assistant Director for Special Activities. These project management changes in the CIA had no immediate impact on the OXCART project because the aircraft was still in the development stage, handled mainly by the contractors. Moreover, a good deal of continuity was provided by officers who had served for a number of years with the U-2 program and were now involved with OXCART: James Cunningham, the Deputy Assistant Director for Special Activities; Col. Leo Geary, the Air Force's project officer for the two aircraft; and John Parangosky, who oversaw the day-to-day affairs of the OXCART project.

OXCART'S FIRST FLIGHTS

With new sealant in its fuel tanks, the prototype OXCART was ready to take to the air. On 25 April 1962, test pilot Louis Schalk took "article 121" for an unofficial, unannounced flight, which was an old Lockheed tradition. He flew the craft less than two miles at an altitude of about 20 feet and encountered considerable problems because of the improper hookup of several controls. These were promptly repaired and on the next day, 26 April, Schalk made the official 40-minute maiden flight. After a beautiful takeoff, the aircraft began shedding the triangular fillets that covered the framework of the chines along the edge of the aircraft body. The lost

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fillets, which had been secured to the airframe with epoxy resin, had to be recovered and reaffixed to the aircraft, a process that took the next four days.

John Parangosky

Once the fillets were in place, the OXCART's official first flight took place on 30 April 1962, witnessed by a number of Agency personnel including DDR Scoville. Richard Bissell was also present, and Kelly Johnson noted in the project log, "I was very happy to have Dick see this flight, with all that he has contributed to the program."[31] This official first flight was also the first flight with the wheels up. Piloted again by Schalk, the OXCART took off at 170 knots and climbed to 30,000 feet. During the 59-minute flight, the A-12 achieved a top speed of 340 knots. Kelly Johnson declared it to be the smoothest first test flight of any aircraft he had designed or tested. On 2 May 1962, during the second test flight, the OXCART broke the sound barrier, achieving a speed of Mach 1.1.[32]

Four more aircraft, including a two-seat trainer, arrived at the testing site before the end of the year. During the second delivery on 26 June 1962, the extra-wide vehicle carrying the aircraft accidentally struck a Greyhound bus traveling in the opposite direction. Project managers quickly authorized payment of $4,890 for the damage done to the bus in order to avoid having to explain in court why the OXCART delivery vehicle was so wide.

One of the biggest problems connected with flight testing the A-12 was keeping its existence secret. Realizing that the nation's air traffic controllers would be among the first unwitting people to learn about the plane, the Deputy Assistant Director for Special Activities, James Cunningham, had called on Federal Aviation Administrator Najeeb E. Halaby in early 1962 to brief him about the craft's existence and ask his assistance in keeping it secret. Halaby cooperated fully with the Agency and personally briefed all FAA regional chiefs on how to handle reports of unusually fast, high-flying aircraft. Air controllers were warned not to mention the craft on the radio but to submit written reports of sightings or radar trackings. The Air Force gave similar briefings to NORAD, the North American Air Defense Command.[33]

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[31] Johnson, "Archangel log," 30 April 1962.

[32] *OSA History*, chap. 20, p. 63 (TS Codeword); [redacted] "OXCART Story," pp. 11-12 (S).

[33] [redacted] OXCART Story," pp. 10-11 (S); *OSA History*, chap. 20, p. 60 (TS Codeword).

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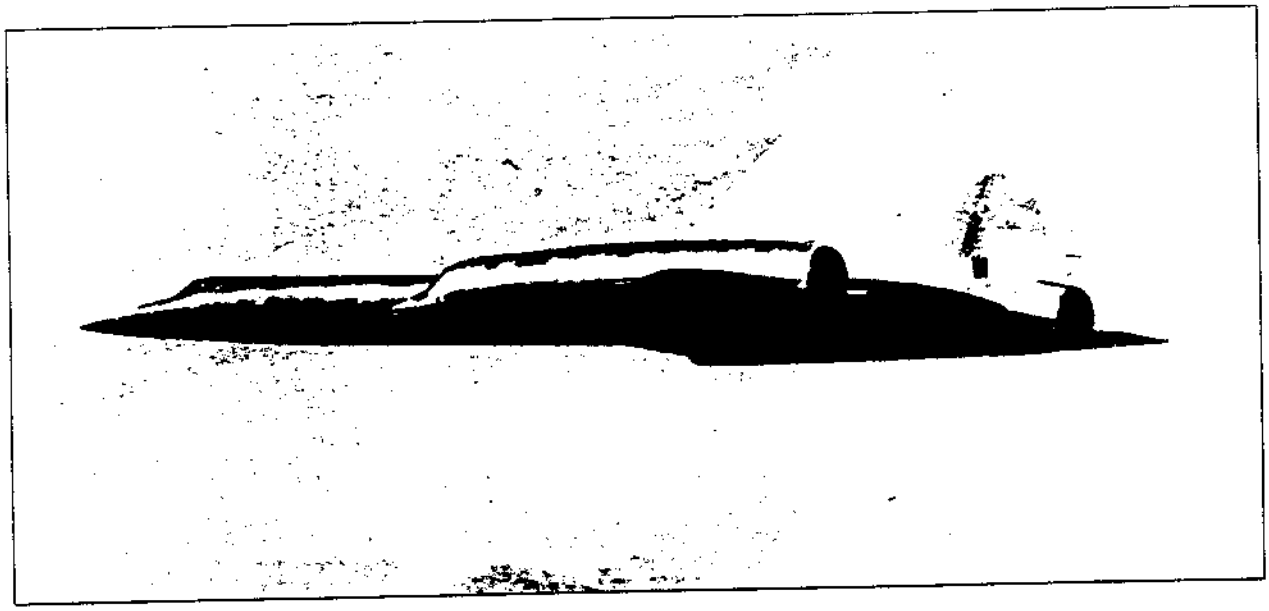

First flight of the A-12, 30 April 1962

Initial testing could not explore the A-12's maximum potential, since the J58 engine was still not ready. Developing this power plant to OXCART specifications was proving much more difficult than had been expected because the J58 had to reach performance levels never before achieved by a jet engine, while operating under extremely difficult environmental conditions. To simulate the stress that the J58 would undergo during maximum power output (Mach 3.2 at 97,000 feet), the power plant was tested in the exhaust stream of a J75 engine. In the course of this extremely severe testing, the J58's problems were gradually overcome. By January 1963, Pratt & Whitney had delivered 10 J58 engines to the Nevada testing site. The first flight of an A-12 with two J58 engines took place on 15 January 1963.[34]

SPEED-RELATED PROBLEMS

As J58-equipped A-12s reached higher and higher speeds, more difficulties arose. Major problems developed at speeds between Mach 2.4 and 2.8 because the aircraft's shock wave interfered with the flow of air into the engine, greatly reducing its performance. Solving this problem required long and often highly frustrating experimentation

[34] William H. Brown, "J58/SR-71 Propulsion Integration," *Studies in Intelligence* 26 (Summer 1982):pp. 17-18 (U); *OSA History*, chap. 20, pp. 58, 67 (TS Codeword).

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that ultimately required a complete redesign of the air-inlet system that controlled the amount of air admitted to the engine. In the new, adjustable inlet the cone-shaped projection at the front—known as a spike—was designed to move in or out as much as three feet in order to capture and contain the shock wave produced by the aircraft at high speeds, thus preventing the shock wave from blowing out the fire inside the engine.[35]

Another J58 engine problem in early 1963 was foreign object damage. Small objects such as pens, pencils, screws, bolts, nuts, and metal shavings that fell into the engine nacelles during assembly at Burbank were sucked into the power plant during initial engine testing at Area 51 and damaged impeller and compressor vanes. To control the problem Lockheed instituted a program that included X-rays, shaking of the nacelles, installing screens over various air inlets to the engine, and even having workers wear coveralls without breast pockets. Another source of foreign object damage was trash on the runways. The giant J58 engines acted like immense vacuum cleaners, sucking in anything lying loose on the paving as they propelled the A-12 down the runway for takeoff. To prevent engine damage, Area 51 personnel had to sweep and vacuum the runway before aircraft takeoff.[36]

NEW VERSIONS OF THE OXCART

In 1962 the Agency and the Air Force ordered two more versions of the OXCART (in addition to the A-12 and the YF-12A). One was a modification of the A-12 to carry and launch ramjet-powered, 43-feet-long drones capable of reaching Mach 3.3 The two-seater mothership received the designation M-12; the drone was called the D-21. This project was known as TAGBOARD. The original development of the drones and mothership was sponsored by the CIA, but in June 1963 the project was turned over to the Air Force, which had overall responsibility for unmanned reconnaissance aircraft. Development of the M-12/D-21 combination continued until 1966, when an unsuccessful D-21 launch caused the loss of its mothership and the death of one of the crew members. Afterward the Air Force turned to B-52 bombers to carry the drones.[37]

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[35] *OSA History*, chap. 20, p. 67 (TS Codeword).

[36] Johnson, "Development of Lockheed SR-71," p. 12.

[37] *OSA History*, chap. 20, p. 71; Jay Miller, *Lockheed SR-71 (A12/YF12/D-21)*, Aerofax Minigraph 1 (Arlington, Texas: Aerofax, Inc., 1985), p. 3.

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The second new version of the OXCART was another reconnaissance aircraft. In December 1962 the Air Force ordered six "reconnaissance/strike" aircraft, which were designed to conduct high-speed, high-altitude reconnaissance of enemy territory after a nuclear strike. This new aircraft differed from other A-12 versions in that it was longer, had a full-blown two-seat cockpit, and carried a large variety of photographic and electronic sensors. The additional weight of all this equipment gave the Air Force craft a slower maximum speed and a lower operating ceiling than the Agency's A-12. In August 1963, the Air Force added 25 more aircraft to this contract, for a total of 31.[38]

THE QUESTION OF SURFACING A VERSION OF THE OXCART

As the funds being spent on Air Force versions of the OXCART increased dramatically, the Defense Department became concerned that it could not offer any public explanation for these expenditures. At the same time, Agency and Defense Department officials recognized the growing danger that a crash or sightings of test flights could compromise the program. This led the Defense Department in late 1962 and early 1963 to consider surfacing the Air Force's interceptor version of the A-12 to provide a cover for OXCART sightings or crashes and an explanation for the rise in Air Force spending. Some journalists had also become aware of the aircraft's existence, raising concern that the secret would eventually come out in the press. Agency officials remained reluctant to reveal the existence of any version of the A-12, and the issue soon came to the attention of the PFIAB. James Killian and Edwin Land strongly opposed disclosing OXCART's existence, and in January 1963 they presented their views to President Kennedy at a meeting attended by DCI McCone and Defense Secretary Robert McNamara. Killian, Land, and McCone succeeded in persuading the President and Secretary of Defense to keep the OXCART's existence a secret for the time being.

Later that year supporters of the idea of surfacing the OXCART found a more powerful argument for their proposal—the need to disseminate the supersonic technology that had been developed for the

[38] *OSA History*, chap. 20, pp. 71-72 (TS Codeword).

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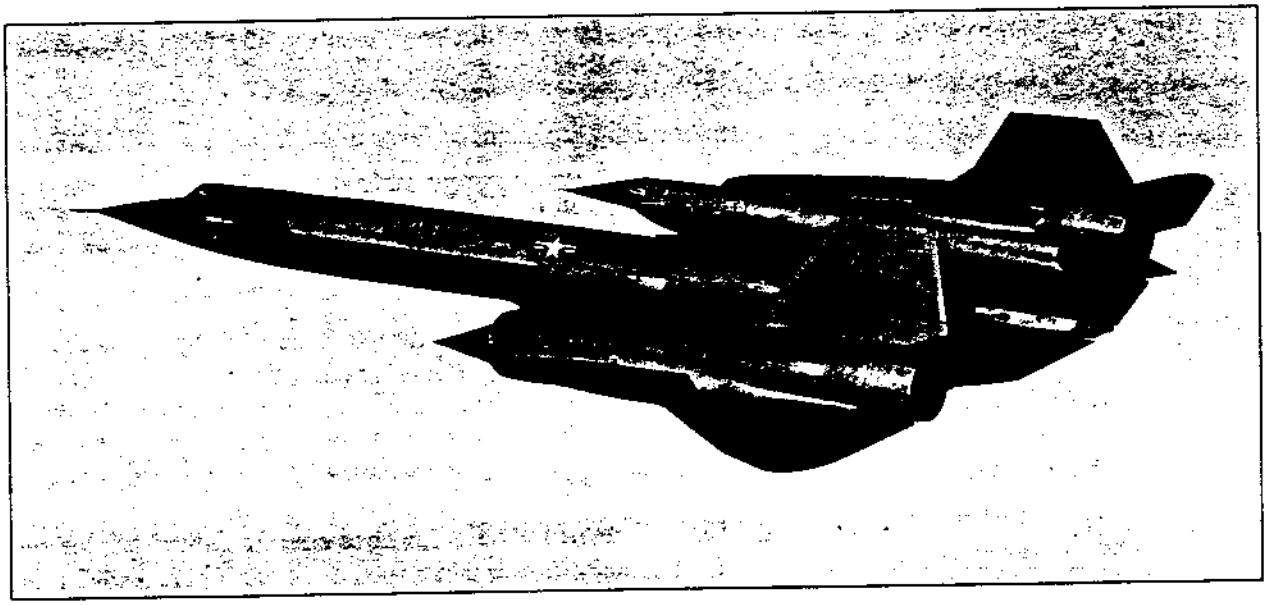

M-12 carrying D-21 Drone

OXCART. This technology would be invaluable for Air Force projects such as the B-70 bomber and for the civilian supersonic transport (SST) then being discussed in Congress. In the fall of 1963, several Presidential advisers expressed their concern to DCI McCone that Lockheed had received a $700 million headstart in the development of supersonic technology, giving the firm a tremendous advantage over other aerospace companies working on a supersonic transport. McCone passed these concerns on to President Kennedy on 12 November 1963, just 10 days before the fateful trip to Dallas. The President instructed CIA and the Defense Department to develop a plan for surfacing the OXCART but to await further discussions with him before taking any action.[39]

President Lyndon B. Johnson received a detailed briefing on the OXCART program from McCone, McNamara, Bundy, and Rusk on 29 November, after just one week in office. McNamara strongly advocated surfacing a version of the OXCART. McCone was more cautious, calling for the preparation of a statement that could be used when surfacing became necessary but arguing that such a step was not

[39] John A. McCone, "Memorandum of Meeting in Cabinet Room for the Purpose of Discussing the Surfacing of the OX," 21 January 1963, DCI records (TS Codeword); idem, Memorandum for the Record, Discussion with the President—October 21st—6:00 p.m., 22 October 1963, DCI records (S); *OSA History*, chap. 20, pp. 73-74 (TS Codeword).

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yet needed. Agreeing with McCone's position, President Johnson said the issue should be reviewed again in February.[40]

One additional argument in favor of surfacing the OXCART was the realization that the aircraft could not be used to fly undetected over the Soviet Union. By 1962 the United States had become aware of the effectiveness of a new Soviet radar system, codenamed TALL KING. The introduction of this computer-controlled radar undercut one of the basic premises of the OXCART program, the assumption that radar operators would not be able to track high-flying supersonic targets visually because of their small, nonpersistent radar returns. By coupling a computer to a radar, the Soviets could now weight the individual radar returns and identify those produced by high-flying, very fast objects.[41]

By February 1964 DCI McCone had become convinced that surfacing was necessary. Soviet development of the TALL KING radar system had eliminated his hope that OXCART would eventually be able to carry out its original intended purpose—overflights of the USSR. The final decision on the issue of surfacing the OXCART came at a National Security Council meeting on 29 February 1964, at which all of the participants supported the decision to surface. That same day President Johnson held a news conference at which he announced the successful development of an "advanced experimental jet aircraft, the A-11, which has been tested in sustained flight at more than 2,000 miles per hour and at altitudes in excess of 70,000 feet."[42]

President Johnson had spoken of the A-11 rather than the Agency's A-12, and the aircraft that was actually revealed to the public was the Air Force's YF-12A interceptor, a project that had already been canceled.[43] Following the President's announcement, two of

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[40] John A. McCone, "Memorandum for the Record, Meeting with the President, Secretary McNamara, Mr. Bundy and DCI," 29 November 1963, DCI records (TS); *OSA History*, chap. 20, p. 73 (TS Codeword).

[41] *OSA History*, chap. 20, pp. 147-149 (TS Codeword).

[42] John A. McCone, Memorandum for the Record, "Discussion at the NSC Meeting, Attended by the President, all members and the four members of the President's personal staff, 29 February 1964," 2 March 1964, DCI records (S); Minnich, "OXCART Story," p. 14—erroneously identifies the date as 24 February—(S).

[43] President Johnson's use of the designator A-11 at the press conference has sometimes been called an error, but Kelly Johnson wrote the President's press release and chose this designator for security reasons because it referred to the earlier version of the aircraft that lacked the radar-defeating modifications of the A-12. Johnson, "Archangel log," 25 February 1964.

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these aircraft were hastily flown to Edwards Air Force Base. From this point on, the Air Force versions of the OXCART were based at Edwards and provided a diversion so that the faster and higher flying A-12s at the Nevada site could continue testing out of the public eye.

The President's announcement did not mention the CIA's involvement in the project, which remained classified, but keeping the Agency's extensive role in the OXCART a secret was not an easy task. The first step had been to separate the Air Force's versions of the A-12 from the Agency's by moving the Air Force aircraft to California. Next, those firms that were to be given the new technology had to be briefed on the program and agree to abide by the same secrecy agreements then in force with Lockheed. Moreover, everyone witting of OXCART (including those no longer associated with the program, such as Allen Dulles, Richard Bissell, and General Cabell) had been briefed about the impending Presidential announcement, so that they would not think that the need for secrecy about OXCART had ended.[44]

The process of surfacing versions of the OXCART continued on 25 July 1964, when President Johnson revealed the existence of a new Air Force reconnaissance aircraft, which he called the SR-71. Actually, the President was supposed to say RS-71 (for "reconnaissance-strike"). Deciding that renaming the aircraft was easier than correcting President Johnson, the Air Force invented a new category—"strategic reconnaissance"—to explain the SR-71's designation.

ADDITIONAL PROBLEMS DURING FINAL TESTING

The first A-12 crash occurred on 24 May 1963, when a detachment pilot, realizing the airspeed indication was confusing and erroneous, decided to eject. The pilot was unhurt, but the plane was destroyed when it crashed near Wendover, Utah. A cover story for the press described the plane as an F-105. All A-12s were grounded for a week while the accident was investigated. The malfunction was found to be caused by ice that had plugged up a pitot-static tube used to determine airspeed.[45]

[44] *OSA History*, chap. 20, p. 76 (TS Codeword).

[45] Ibid., pp. 69-70 (TS Codeword).

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Two more A-12s were lost in later testing. On 9 July 1964, article 133 crashed while landing when a pitch-control servo device froze, rolling the plane into a wing-down position. Ejecting from an altitude of 120 feet, the pilot was blown sideways out of the craft. Although he was not very high off the ground, his parachute did open and he landed during the parachute's first swing. Fortunately he was unhurt, and no news of the accident filtered out of the base. Eighteen months later, on 28 December 1965, article 126 crashed immediately after takeoff because of an improperly wired stability augmentation system. As in the previous crash, the pilot ejected safely, and there was no publicity connected with the crash. An investigation ordered by DCI McCone determined that the wiring error had resulted from negligence, not sabotage.[46]

The A-12 made its first long-range, high-speed flight on 27 January 1965. The flight lasted 100 minutes, 75 minutes of which were flown at speeds greater than Mach 3.1, and the aircraft covered 2,580 miles at altitudes between 75,600 and 80,000 feet. By this time, the OXCART was performing well. The engine inlet, camera, hydraulic, navigation, and flight-control systems all demonstrated acceptable reliability.

Nevertheless, as the OXCART began flying longer, faster, and higher, new problems arose. The most serious of these problems involved the aircraft's wiring. Continuing malfunctions of the inlet controls, communications equipment, ECM systems, and cockpit instruments were often attributable to wiring failures. Wiring connectors and components had to withstand temperatures above 800°F, structural flexing, vibration, and shock. Such demands were more than the materials could stand. Not all of the OXCART's problems could be traced to materiel failures, however, and Agency officials believed that careless maintenance by Lockheed employees also contributed to malfunctions.[47]

Concerned that Lockheed would not be able to meet the OXCART's schedule for operational readiness, the Office of Special Activities' Director of Technology, John Parangosky, met with Kelly Johnson on 3 August 1965 to discuss the project's problems. Johnson not only assigned more top-level supervisors to the project but also

[46] Ibid., pp. 80-81 (TS Codeword) [redacted] "OXCART Story," pp. 17-18 (S).

[47] *OSA History*, chap. 20, p. 94 (TS Codeword).

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decided to go to Nevada and take charge of the OXCART's development himself. His presence made a big difference, as can be seen in his notes in the project log:

> *I uncovered many items of a managerial, materiel and design nature.... I had meetings with vendors to improve their operation.... Changed supervision and had daily talks with them, going over in detail all problems on the aircraft.... Increased the supervision in the electrical group by 500%.... We tightened up the inspection procedures a great deal and made inspection stick.*
>
> *It appears that the problems are one-third due to bum engineering.... The addition of so many systems to the A-12 has greatly complicated the problems, but we did solve the overall problem.*[48]

These improvements in on-site management got the project back on schedule.

By 20 November 1965, the final validation flights for OXCART deployment were finished. During these tests, the OXCART achieved a maximum speed of Mach 3.29, an altitude of 90,000 feet, and sustained flight time above Mach 3.2 of 74 minutes. The maximum endurance test lasted six hours and 20 minutes. On 22 November, Kelly Johnson wrote to Brig. Gen. Jack C. Ledford, head of the Office of Special Activities, stating, "The time has come when the bird should leave its nest."[49]

Three years and seven months after its first flight in April 1962, the OXCART was ready for operational use. It was now time to find work for the most advanced aircraft ever conceived and built.

DISCUSSIONS ON THE OXCART'S FUTURE EMPLOYMENT

Although the OXCART had been designed to replace the U-2 as a strategic reconnaissance aircraft to fly over the Soviet Union, this use had become doubtful long before the OXCART was ready for operational use. The U-2 Affair of 1960 made Presidents very reluctant to consider overflights of the Soviet Union. Indeed, Presidents Eisenhower and Kennedy had both stated publicly that the United States would not conduct such overflights. In July 1962, Secretary of

[48] Johnson, "Archangel log," 5 August–30 April 1965.

[49] [redacted] "OXCART Story," p. 23 (S).

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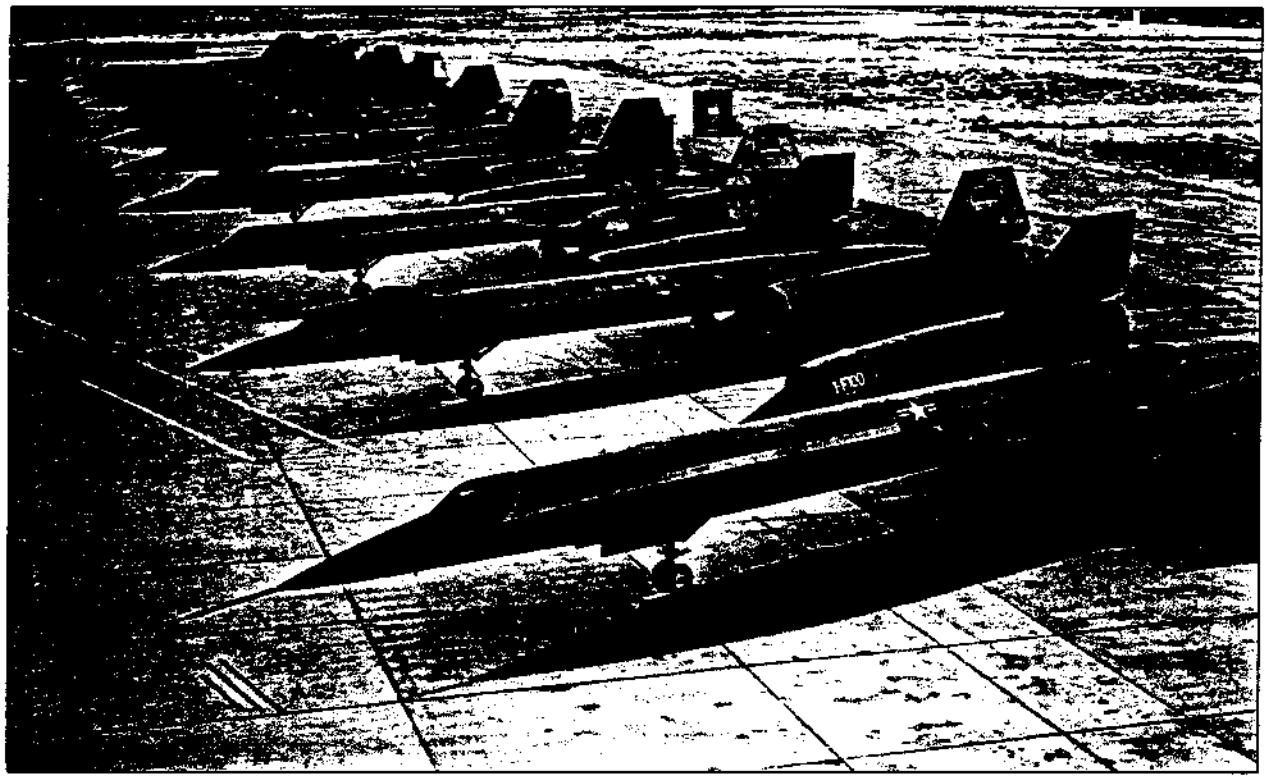

A-12s at Area 51

Defense McNamara told DCI McCone that he doubted that the OXCART would ever be used and suggested that improvements in satellite reconnaissance would very likely eliminate the need for the expensive OXCART program. Strongly disagreeing, McCone told McNamara that he had every intention of using OXCART aircraft to fly over the Soviet Union.

McCone raised this issue with President Kennedy in April 1963, at a time when the nation's photosatellites were experiencing a great number of failures and the intelligence community was clamoring for better photography to confirm or disprove allegations of the existence of an antiballistic missile system at Leningrad. Unconvinced by McCone's arguments for OXCART overflights, President Kennedy expressed the hope that some means might be devised for improving satellite imagery instead.[50]

[50] John A. McCone, Memorandum for the Record, "Summary of meeting with Secretary McNamara and Secretary Gilpatric, General Carter and Mr. McCone on 5 July 1962," 6 July 1962, DCI records (S); McCone, Memorandum for the File, "Meeting with the President—5:30—15 Apr 1963 in Palm Beach, Florida," DCI records (S).

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Although overflights of the Soviet Union appeared to be out of the question, the OXCART's eventual employment elsewhere in the world remained a strong possibility, particularly after the Cuban Missile Crisis of October 1962 demonstrated the continuing need for manned strategic reconnaissance aircraft. Since satellites had not been able to supply the kinds of coverage needed, U-2s had carried out numerous overflights of Cuba. Nevertheless, the U-2 remained vulnerable to surface-to-air missiles (as had once again been demonstrated by the downing of a SAC U-2 during the Missile Crisis), and project headquarters had even briefly considered sending the A-12 over Cuba in October 1962, even though the aircraft still lacked the required J58 engines and would have had to use much less powerful ones.[51] After the Missile Crisis ended, Air Force U-2s continued to photograph Cuba under a tacit superpower understanding that such monitoring of the withdrawal of the missiles would proceed without interference. But the possibility of future Soviet or Cuban action against the U-2s remained, raising the dismaying prospect that the United States would not be able to tell if the Soviet Union was reintroducing ballistic missiles into Cuba.

Such fears became acute in the summer of 1964 after Soviet Premier Nikita Khrushchev told foreign visitors such as columnist Drew Pearson, former Senator William Benton, and Danish Prime Minister Jens Otto Krag that, once the US elections had been held in November, U-2s flying over Cuba would be shot down. Project headquarters therefore began preparing contingency plans (Project SKYLARK) for the possible employment of OXCART over Cuba, even though the new aircraft was not yet ready for operations. On 5 August 1964, the Acting DCI, Gen. Marshall S. Carter, ordered the project staff to achieve emergency operational readiness of the OXCART by 5 November 1964, in case Premier Khrushchev actually carried out his threat to shoot down U-2s.[52]

To meet this deadline, the Office of Special Activities organized a detachment of five pilots and ground crews to conduct flights to validate camera performance and qualify pilots for Mach 2.8 operations. Simulating Cuban missions during training flights, the detachment

[51] On 23 October 1962 Johnson noted in his "Archangel log": that the performance of an A-12 with J75 engines (as suggested by project headquarters for possible use over Cuba) would be "hardly spectacular."

[52] Johnson, "Archangel log," 17 August 1964; [redacted] "OXCART Story," p. 19 (S); *OSA History*, chap. 20, p. 81 (TS Codeword).

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demonstrated its ability to conduct overflights of Cuba by the 5 November deadline, which passed without any hostile action by the Soviets or Cubans. The detachment then worked to develop the capability for sustained operations with its five aircraft. All these preparations were valuable training for the OXCART program, even though the SKYLARK contingency plan was never put into effect. Since U-2s continued to satisfy collection requirements for Cuba, the A-12s were reserved for more critical situations.

When the Agency declared that OXCART had achieved emergency operational status on 5 November 1964, the aircraft was still not prepared for electronic warfare, as only one of the several planned electronic countermeasure devices had been installed. Nevertheless, a senior government panel decided that the OXCART could conduct initial overflights of Cuba without a full complement of warning and jamming devices, should the need for such missions arise.

One reason for the delay in completing OXCART's electronic warfare preparations was the Air Force's concern that OXCART use of existing ECM devices could, in the event of the loss of an OXCART over hostile territory, compromise the ECM equipment used by Air Force bombers and fighters. Even if OXCART's ECM devices were merely similar to military ECM systems, the Air Force still worried that their use would give the Soviets an opportunity to work out countermeasures.

Such concerns led the Agency to an entirely different approach to antiradar efforts in Project KEMPSTER. This project attempted to develop electron guns that could be mounted on the OXCART to generate an ion cloud in front of the plane that would reduce its radar cross section. Although this project proved unsuccessful, the CIA also developed a number of more conventional ECM devices for use in the OXCART.[53]

As the OXCART's performance and equipment continued to improve, there was renewed consideration of deploying the aircraft overseas, particularly in Asia, where US military activity was increasing. On 18 March 1965, DCI McCone, Secretary of Defense McNamara, and Deputy Secretary of Defense Vance discussed the

[53] *OSA History*, chap. 20, pp. 149-151 (TS Codeword); Notes on the OXCART project by John Parangosky, OSA records (TS Codeword).

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growing hazards confronting aerial reconnaissance of the People's Republic of China. In three years the Agency had lost four U-2s over China, and the Air Force had lost numerous reconnaissance drones. The three men agreed to go ahead with all the preparatory steps needed for the OXCART to operate over China so that it would be ready in case the President decided to authorize such missions.

Project BLACK SHIELD, the plan for Far East operations, called for OXCART aircraft to be based at Kadena airbase on Okinawa. In the first phase, three planes would be flown to Okinawa for 60-day periods, twice a year, an operation which would involve about 225 personnel. Later there would be a permanent detachment at Kadena. In preparation for the possibility of such operations, the Defense Department spent $3.7 million to provide support facilities and real-time secure communications on the island by early autumn 1965.[54]

In the summer of 1965, after the United States had begun introducing large numbers of troops into South Vietnam, Southeast Asia became another possible target for the OXCART. Because the continued use of U-2s for reconnaissance missions over North Vietnam was threatened by the deployment of Soviet-made surface-to-air missiles, McNamara asked the CIA on 3 June 1965 whether it would be possible to substitute OXCART aircraft for U-2s. The new DCI, Adm. William F. Raborn, replied that the OXCART could operate over Vietnam as soon as it had passed its final operational readiness tests.[55]

Formal consideration of proposed OXCART missions involved the same approval process that was used for U-2 overflights. In late November 1965, after the OXCART had passed its final validation tests, the 303 Committee met to consider a proposal to deploy the OXCART to Okinawa to overfly Southeast Asia and China. Although the committee did not approve deployment, it ordered the development and maintenance of a quick-reaction capability, ready to deploy to Okinawa within 21 days after notification.

There the matter remained for more than a year. During the first half of 1966, DCI Raborn raised the issue of deploying the OXCART to Okinawa at five separate 303 Committee meetings but failed to win

[54] *OSA History*, chap. 20, pp. 90-91 (TS Codeword).

[55] [redacted] "OXCART Story," p. 21 (S).

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sufficient support. The JCS and the PFIAB supported the CIA's advocacy of OXCART deployment. Top State and Defense Department officials, however, thought that the political risks of basing the aircraft in Okinawa—which would almost certainly disclose it to the Japanese—outweighed any gains from the intelligence the OXCART might gather. On 12 August 1966, the divergent views were presented to President Johnson, who upheld the 303 Committee's majority opinion against deployment for the time being.[56]

The CIA then proposed an OXCART overflight of Cuba in order to test the aircraft's ECM systems in a hostile environment. On 15 September the 303 Committee considered and rejected this idea on the grounds that sending OXCART over Cuba "would disturb the existing calm prevailing in that area of our foreign affairs."[57]

With operational missions still ruled out, proficiency training remained the main order of business. This led to improvements in mission plans and flight tactics that enabled the detachment to reduce the time required to deploy to Okinawa from 21 days to 15. Records continued to fall to the OXCART. On 21 December 1966, a Lockheed test pilot flew an A-12 for 16,408 kilometers over the continental United States in slightly more than six hours, for an average speed of 2,670 kilometers per hour (which included in-flight refueling at speeds as low as 970 kilometers per hour). This flight set a record for speed and distance unapproachable by any other aircraft.[58]

Two weeks later, on 5 January 1967, an A-12 crashed after a fuel gauge malfunctioned and the aircraft ran out of fuel short of the runway. Pilot Walter Ray ejected but was killed when he could not become separated from the ejection seat. To preserve the secrecy of the OXCART program, the Air Force informed the press that an SR-71 was missing and presumed down in Nevada. This loss, like the three preceding crashes, did not result from difficulties caused by high-speed, high-temperature flight but from traditional problems inherent in any new aircraft.

Proposals for OXCART operations continued to surface, and in May 1967 the CIA forwarded a detailed request to the 303 Committee to use the OXCART to collect strategic intelligence about a new

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[56] [redacted] "OXCART Story," p. 23 (S); *OSA History*, chap. 20, pp. 110-111 (TS Codeword).

[57] *OSA History*, chap. 20, p. 112 (TS Codeword).

[58] [redacted] "OXCART Story," p. 24 (S).

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Soviet missile system. As early as 1962, the intelligence community began to be concerned about the actual purpose of new missile installations that first appeared near Tallinn, Estonia, and soon spread along the northwestern quadrant of the Soviet Union. Attempts to photograph the sites using reconnaissance satellites had been frustrated by the prevailing cloud cover in the region. Because of the lack of accurate information about the missile sites, there was a wide divergence of views within the intelligence community about their purpose. These views ranged from the CIA's belief that the installations contained long-range, surface-to-air missiles designed to counter strategic bombers, to the Air Force's contention that Tallinn sites represented a deployed antiballistic missile system.

Photointerpreters insisted that imagery with a resolution of 12 to 18 inches was necessary to determine missile size, antenna pattern, and configuration of the engagement radars associated with the system. Electronic intelligence (ELINT) analysts also needed data about the Tallinn radars, but there were no collection sites that could monitor the Tallinn emanations when the radars were being tested. Moreover, the Soviets never operated the radars in the tracking and lockon modes, a fact that prevented analysts from knowing the frequencies or any other performance characteristics of the radar.

To settle the question of the purpose of the Tallinn installations, Office of Special Activities planners proposed a mission that would use the high resolution of the OXCART's camera along with the U-2's sophisticated ELINT-collection equipment. This project's unclassified name was Project SCOPE LOGIC; its classified title was Operation UPWIND.

The proposed project involved launching an A-12 OXCART aircraft from Area 51 in Nevada and flying it to a Baltic Sea rendezvous with a Project IDEALIST U-2 flying from an RAF facility in Great Britain. The OXCART would fly north of Norway and then turn south along the Soviet-Finnish border. Shortly before Leningrad, the A-12 would head west-southwest down the Baltic Sea, skirting the coasts of Estonia, Latvia, Lithuania, Poland, and East Germany before heading west to return to Area 51. The entire flight would cover 11,000 nautical miles, take eight hours and 38 minutes, and require four aerial refuelings.

Although the A-12 would not violate Soviet airspace during this dash, it would appear to Soviet radar network operators to be headed for an overflight penetration in the vicinity of Leningrad. It was

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hoped that the A-12's passage would provoke Soviet air defense personnel to activate the Tallinn system radars in order to track the swift OXCART aircraft. As the A-12 made its dash down the Baltic, its Type-I camera would be filming the entire south coast. If Agency analysts were correct in their assumption that the Tallinn system was designed to counter high-altitude aircraft at long ranges, then the OXCART would be in jeopardy during this dash down the Baltic. Nevertheless, Agency weapons experts believed that the A-12 aircraft's speed and suite of electronic countermeasures would keep it safe from the standard Soviet surface-to-air missile installations.

While the A-12 was conducting its high-speed dash along the Baltic coast of Eastern Europe, the U-2 would be flying farther out to sea, safely beyond the range of all Soviet SAMs. The U-2 would be able to collect the Tallinn radar installation's ELINT emanations.

Agency and Defense Department officials supported the proposed mission, but Secretary of State Dean Rusk strongly opposed it and the 303 Committee never forwarded the proposal to President Johnson.[59] The Tallinn radar installation remained of great interest to the intelligence community, and in the late 1960s the CIA attempted to develop a small, unmanned reconnaissance aircraft that could photograph Tallinn and other coastal areas. The project (AQUILINE) was abandoned in 1971 (see appendix E).

FIRST A-12 DEPLOYMENT: OPERATION BLACK SHIELD

Although the Tallinn mission was still being considered in May 1967, another possible employment for the OXCART came under discussion. This time the proposal was for OXCART to collect tactical rather than strategic intelligence. The cause was apprehension in Washington about the possible undetected introduction of surface-to-surface missiles into North Vietnam. When President Johnson asked for a proposal on the matter, the CIA suggested that the OXCART be used. While the State and Defense Departments were still examining the proposal's political risks, DCI Richard Helms

[59] Memorandum for DDCI R. L. Taylor from C. E. Duckett, DDS&T, "Collection of Photo and ELINT Data on Tallinn Sites Utilizing the OXCART and the U-2," 4 May 1967, DS&T records (TS Codeword).

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raised the issue at President Johnson's "Tuesday lunch" on 16 May. Helms got the President's approval, and the CIA put the BLACK SHIELD plan to deploy the OXCART to the Far East into effect later that same day.[60]

The airlift of personnel and equipment to Kadena began on 17 May 1967, and on 22 May the first A-12 flew nonstop from Area 51 to Kadena in six hours and six minutes. A second aircraft arrived on 24 May. The third A-12 left on 26 May, but the pilot had trouble with the inertial navigation system and communications near Wake Island. He made a precautionary landing at Wake, where a pre-positioned emergency recovery team was located. The problem was corrected and the aircraft continued its flight to Kadena on the following day.

Before the start of the operation, the CIA briefed a number of key US and Allied officials on the operation. Included were the US Ambassadors [redacted]

By 29 May 1967, 13 days after President Johnson's approval, BLACK SHIELD was ready to fly an operational mission. On 30 May, the detachment was alerted for a mission on the following day. As the takeoff time approached, Kadena was being deluged by rain, but, since weather over the target area was clear, flight preparations continued. The OXCART, which had never operated in heavy rain, taxied to the runway and took off.

This first BLACK SHIELD mission flew one flight path over North Vietnam and another over the demilitarized zone (DMZ). The mission was flown at Mach 3.1 and 80,000 feet and lasted three hours and 39 minutes. While over North Vietnam, the A-12 photographed 70 of the 190 known surface-to-air missile sites and nine other priority targets. The A-12's ECM equipment did not detect any radar signals during the mission, which indicated that the flight had gone completely unnoticed by both the Chinese and North Vietnamese.

[redacted] "OXCART Story," p. 25 (S).

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During the next six weeks, there were alerts for 15 BLACK SHIELD missions, seven of which were actually flown. Only four detected hostile radar signals. By mid-July 1967, the BLACK SHIELD missions had provided sufficient evidence for analysts to conclude that no surface-to-surface missiles had been deployed in North Vietnam.[61]

Project Headquarters in Langley planned and directed all operational BLACK SHIELD missions. To ensure secure communications between Headquarters and Kadena, [redacted]

A typical mission over North Vietnam required refueling south of Okinawa, shortly after takeoff. After the planned photographic passes, the aircraft withdrew for a second aerial refueling in the Thailand area before returning to Kadena. So great was the plane's speed that it spent only 12.5 minutes over Vietnam during a "single-pass" mission, and 21.5 minutes during a "two-pass" mission. Because of its wide 86-mile turning radius, the plane occasionally crossed into Chinese airspace when getting into position for a second pass.

After the aircraft landed, the camera film was removed and sent by special plane to processing facilities in the United States. By late summer, however, an Air Force photo laboratory in Japan began doing the processing in order to place the photointelligence in the hands of US commanders in Vietnam within 24 hours of a mission's completion.

BLACK SHIELD activity continued unabated during the second half of 1967. From 16 August to 31 December 1967, 26 missions were alerted and 15 were flown. On 17 September one SAM site tracked the vehicle with its acquisition radar but was unsuccessful with its FAN SONG guidance radar. It was not until 28 October that a North Vietnamese SAM site launched a missile at the OXCART. Mission photography documented the event with photographs of missile smoke above the SAM firing site and pictures of the missile and its contrail. Electronic countermeasures equipment aboard the OXCART performed well, and the missile did not endanger the aircraft.

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[61] [redacted] "OXCART Story," pp. 25-28 (S); *OSA History*, chap. 20, pp. 119-124, annex 152 (TS Codeword).

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The only time the enemy came close to downing an OXCART was on 30 October 1967. During his first pass over North Vietnam, pilot Dennis Sullivan detected radar tracking. Two SAM sites prepared to launch missiles but neither did. During Sullivan's second pass the North Vietnamese fired at least six missiles at the OXCART, each confirmed by vapor trails on mission photography. The pilot saw these vapor trails and witnessed three missile detonations near but behind the A-12, which was traveling at Mach 3.1 at about 84,000 feet. Postflight inspection of the aircraft revealed that a piece of metal had penetrated the underside of the right wing, passed through three layers of titanium, and lodged against a support structure of the wing tank. The fragment was not a warhead pellet but probably debris from one of the missile detonations that the pilot observed.[62]

BLACK SHIELD missions continued during the first three months of 1968, with four missions flown over North Vietnam out of 14 alerts. The last OXCART overflight of Vietnam took place on 8 March 1968. During this same three-month period, the OXCART made its first overflight of North Korea after the USS Pueblo was seized on 23 January 1968. The goal of this mission was to discover whether the North Koreans were preparing any large-scale hostile move in the wake of this incident. When NPIC photointerpreters examined OXCART photography taken on 26 January, they found the missing USS Pueblo in Wonsan harbor.

Secretary of State Dean Rusk was reluctant to endorse a second mission over North Korea for fear of diplomatic repercussions should the aircraft come down in hostile territory. The Secretary was assured that the plane could transit North Korea in seven minutes and was unlikely to land in either North Korea or China. The 303 Committee then endorsed a second mission over North Korea, which was flown on 19 February. A third and final overflight of North Korea on 8 May 1968 proved to be the last operational deployment of the OXCART aircraft.[63]

THE END OF THE OXCART PROGRAM

Almost a decade had elapsed between the time when the concept for the OXCART aircraft was first examined and the first A-12 was operationally deployed. Now after only 29 operational missions, the most

[62] [redacted] "OXCART Story," p. 28 (S).

[63] Ibid., pp. 28-29 (S).

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USS Pueblo in Wonsan Harbor

advanced aircraft ever built was to be put out to pasture. The abandonment of the OXCART did not result from any shortcomings of the aircraft; the causes lay in fiscal pressures and competition between the reconnaissance programs of the CIA and the Air Force.

Throughout the OXCART program, the Air Force had been exceedingly helpful; it gave financial support, conducted the refueling program, provided operational facilities at Kadena, and airlifted OXCART personnel and supplies to Okinawa for the Vietnam and Korean operations. Air Force orders for variants of the CIA's A-12—the YF-12A interceptor and the SR-71 reconnaissance aircraft—had helped lower development and procurement costs for the OXCART. Nevertheless, once the Air Force had built up its own fleet of reconnaissance aircraft, budgetary experts began to criticize the existence of two expensive fleets of similar aircraft.

In November 1965, the very month that the A-12 had been declared operational, the Bureau of the Budget circulated a memorandum that expressed concern about the costs of the A-12 and SR-71 programs. It questioned both the total number of planes required for the combined fleets, and the necessity for a separate CIA fleet. The memorandum recommended phasing out the A-12 program by September 1966 and stopping any further procurement of the SR-71

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models. The Secretary of Defense rejected this recommendation, presumably because the SR-71 would not be operational by September 1966.[64]

In July 1966, at the Bureau of the Budget's suggestion, a study group was established to look for ways to reduce the cost of the OXCART and SR-71 programs. The study group consisted of C. W. Fischer from the Bureau of the Budget, Herbert Bennington from the Department of Defense, and John Parangosky from CIA. The study group listed three possible courses of action: maintain both fleets, mothball the A-12s but share the SR-71s between CIA and the Air Force, or mothball the A-12s and assign all missions to Air Force SR-71s. On 12 December 1966, four high-level officials met to consider these alternatives. Over the objections of DCI Helms, the other three officials—Deputy Secretary of Defense Cyrus Vance, Bureau of the Budget Director Charles L. Schultze, and Presidential Scientific Adviser Donald F. Hornig—decided to terminate the OXCART fleet. Concerned that this recommendation would strip the CIA of its supersonic reconnaissance capability, Helms then asked that the SR-71 fleet be shared between CIA and the Air Force.[65]

Four days later, Schultze handed Helms a draft memorandum for the President requesting a decision either to share the SR-71 fleet between CIA and the Air Force or to terminate the CIA capability entirely. Having just received new information indicating that the SR-71's performance was inferior to that of the A-12, Helms asked for another meeting to review this data. His concern was that the SR-71 could not match the photographic coverage that the A-12 could provide. Only one of the SR-71's three camera systems was working anywhere near the original specifications, and that was its Operational Objective system which could only photograph a swath 28 miles wide with a resolution of 28 to 30 inches. The A-12's Type-I P-E camera could photograph a swath 72 miles wide with a nadir resolution of 12 to 18 inches and oblique resolution of 54 inches. Thus, the A-12's camera covered three times as much territory as the SR-71's camera and did so with better resolution. In addition, the A-12 could fly 2,000 to 5,000 feet higher than the SR-71 and was also faster, with a maximum speed of Mach 3.1 compared with the SR-71's Mach 3.0.[66]

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[64] *OSA History*, chap. 20, p. 130 (TS Codeword); [redacted] "OXCART Story," p. 30 (S).

[65] *OSA History*, chap. 20, pp. 130-133 (TS Codeword); [redacted] "OXCART Story," pp. 30-31 (S).

[redacted] "OXCART Story," p. 31 (S); *OSA History*, pp. 133-134 (TS Codeword).

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In spite of Helms's request and the strength of his arguments, the Bureau of the Budget memorandum was submitted to President Johnson. On 28 December 1966, the President approved the termination of the OXCART program by 1 January 1968.

This decision meant that CIA had to develop a schedule for an orderly phaseout of the A-12. This activity was known as Project SCOPE COTTON. Project headquarters informed Deputy Defense Secretary Vance on 10 January 1967 that the A-12s would gradually be placed in storage, with the process to be completed by the end of January 1968. In May 1967, Vance directed that SR-71s would assume responsibility for Cuban overflights by 1 July 1967 and would add responsibility for overflights of Southeast Asia by 1 December 1967. Until these capabilities were developed, OXCART was to remain able to conduct assignments on a 15-day notice for Southeast Asia and a seven-day notice for Cuba.[67]

All these arrangements were made before the OXCART had conducted a single operational mission, which did not occur until 31 May 1967. In the months that followed the initiation of operations in Asia, the OXCART demonstrated its exceptional technical capabilities. Soon some high-level Presidential advisers and Congressional leaders began to question the decision to phase out OXCART, and the issue was reopened.

The CIA contended that the A-12 was the better craft because it flew higher, faster, and had superior cameras. The Air Force maintained that its two-seat SR-71 had a better suite of sensors, with three different cameras (area search, spotting, and mapping), infrared detectors, side-looking aerial radar, and ELINT-collection gear. In an effort to resolve this argument, the two aircraft were pitted against each other in a flyoff codenamed NICE GIRL. On 3 November 1967, an A-12 and an SR-71 flew identical flight paths, separated in time by one hour, from north to south roughly above the Mississippi River. The data collected during these missions were evaluated by representatives of the CIA, DIA, and other Defense Department intelligence organizations.

The results proved inconclusive. Both photographic systems provided imagery of sufficient quality for analysis. The A-12 Type-I camera's 72-mile swath width and 5,000-foot film supply were superior to the SR-71 Operational Objective camera's 28-mile swath and

[67] [redacted] "OXCART Story," p. 31 (S); *OSA History*, p. 138 (TS Codeword).

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3,300-foot film supply. On the other hand, the SR-71's infrared, side-looking aerial radar, and ELINT/COMINT equipment provided some unique intelligence not available from the A-12. Air Force planners admitted, however, that some of this equipment would have to be sacrificed in order to provide the SR-71 with ECM gear.[68]

Although the flyoff had not settled the question of which aircraft was superior, the OXCART did win a temporary reprieve in late November 1967. The Johnson administration decided to keep both fleets for the time being, particularly because the OXCART was actually flying missions over North Vietnam. With expenditures for the Vietnam war rising steadily, the question of reducing the costs of competing reconnaissance programs was bound to surface again. In the spring of 1968, there was yet another study of the OXCART and SR-71 programs. On 16 May 1968, the new Secretary of Defense, Clark Clifford, reaffirmed the original decision to terminate the OXCART program and store the aircraft. President Johnson confirmed this decision on 21 May.[69]

Project headquarters selected 8 June 1968 as the earliest possible date for phasing out all OXCART aircraft. Those A-12s already at the Nevada site were placed in storage, and the aircraft on Okinawa were scheduled to return by 8 June. Unfortunately, tragedy struck before this redeployment took place. On 4 June 1968 during a test flight from Kadena to check out a new engine, an A-12 disappeared 520 miles east of Manila. Search and rescue missions found no trace of the plane or its pilot, Jack W. Weeks. Several days later the remaining two A-12s left Okinawa to join the other eight OXCART aircraft in storage at Palmdale, California. Because the A-12s were smaller than either of the Air Force's versions, the only parts that could be salvaged for Air Force use were the J58 engines. The OXCART's outstanding Perkin-Elmer camera cannot be used in the SR-71 because the two-seater Air Force aircraft has a smaller camera compartment than that of the A-12. Constructed from one of the most durable metals known to man but unable to fly for want of engines, the OXCART aircraft are fated to remain inactive at Palmdale for many, many years.

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[68] Information supplied by James Cunningham to Donald E. Welzenbach.

[69] [redacted] "OXCART Story," pp. 32-33 (S); *OSA History*, chap. 20, pp. 143-146 (TS Codeword).

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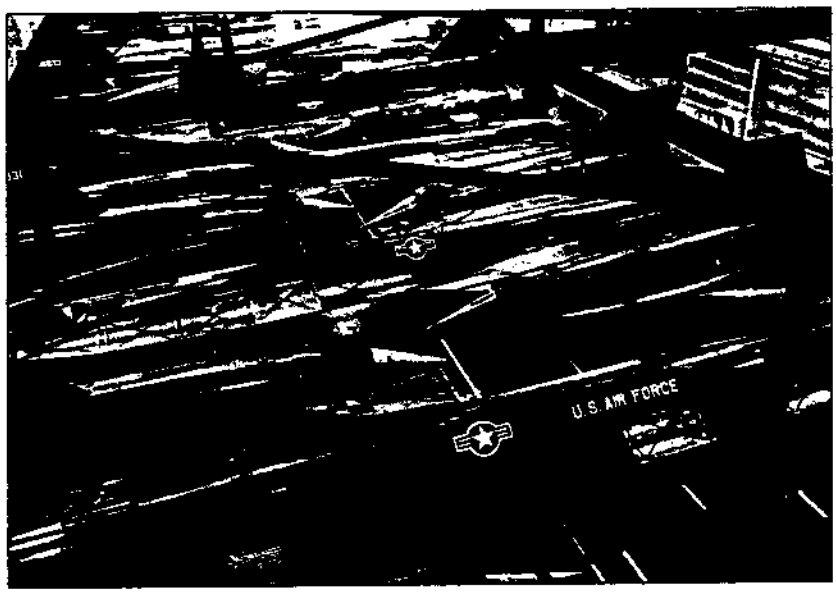

Initial storage arrangements for A-12s at Palmdale

POSSIBLE SUCCESSORS TO THE OXCART

The OXCART was the last high-altitude reconnaissance aircraft produced for the CIA, although the Office of Special Activities did briefly consider several possible successors to the OXCART during the mid-1960s. The first of these, known as Project ISINGLASS, was prepared by General Dynamics to utilize technology developed for its Convair Division's earlier FISH proposal and its new F-111 fighter in order to create an aircraft capable of Mach 4-5 at 100,000 feet. General Dynamics completed its feasibility study in the fall of 1964, and OSA took no further action because the proposed aircraft would still be vulnerable to existing Soviet countermeasures. In 1965 a more ambitious design from McDonnell Aircraft came under consideration as Project RHEINBERRY (although some of the work seems to have come under the ISINGLASS designation as well). This proposal featured a rocket-powered aircraft that would be launched from a B-52 mother ship and ultimately reach speeds as high as Mach 20 and altitudes of up to 200,000 feet. Because building this aircraft would have involved tremendous technical challenges and correspondingly high costs, the Agency was not willing to embark on such a program at a time when the main emphasis in overhead reconnaissance had shifted from aircraft to satellites. As a result, when the OXCART program ended in the summer of 1968, no more advanced successor was waiting in the wings—only the veteran U-2.

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SUMMARY OF THE OXCART PROGRAM

Intended to replace the U-2 as a collector of strategic intelligence, the OXCART was never used for this purpose. Its brief deployment was strictly for obtaining tactical intelligence and its photographic product contributed very little to the Agency's strategic intelligence mission. By the time OXCART became operational, photosatellite systems had filled the role originally conceived for it. The most advanced aircraft of the 20th century had become an anachronism before it was ever used operationally.[70]

The OXCART did not even outlast the U-2, the aircraft it was supposed to replace. The OXCART lacked the quick-response capability of the smaller craft: a U-2 unit could be activated overnight, and within a week it could deploy abroad, fly sorties, and return to home base. The OXCART planes required precise logistic planning for fuel and emergency landing fields, and their inertial guidance systems needed several days for programming and stabilization. Aerial tankers had to be deployed in advance along an OXCART's flight route and be provisioned with the highly specialized fuel used by the J58 engines. All of this required a great deal of time and the effort of several hundred people. A U-2 mission could be planned and flown with a third fewer personnel.

Although the OXCART program created a strategic reconnaissance aircraft with unprecedented speed, range, and altitude, the program's most important contributions lay in other areas: aerodynamic design, high-impact plastics, engine performance, cameras, electronic countermeasures, pilot life-support systems, antiradar devices, use of nonmetallic materials for major aircraft assemblies, and improvements in milling, machining, and shaping titanium. In all of these areas, the OXCART pushed back the frontiers of aerospace technology and helped lay the foundation for future "stealth" research.

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[70] On 26 January 1967 Kelly Johnson noted in his "Archangel log":
I think back to 1959, before we started this airplane, to discussions with Dick Bissell where we seriously considered the problem of whether there would be one more round of aircraft before the satellites took over. We jointly agreed there would be just one round, and not two. That seems to have been a very accurate evaluation, as it seems that 30 SR-71's give us enough overflight reconnaissance capability and we don't need the additional 10 Oxcart aircraft.

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Conclusion

U-2 OVERFLIGHTS OF THE SOVIET UNION

Before the first U-2 overflights in the summer of 1956, project managers believed that their aircraft could fly virtually undetected over the Soviet Union. They did not expect this advantage to last very long, however, because they also expected the Soviets to develop effective countermeasures against the U-2 within 12 to 18 months. Recognizing that time was against them, the U-2 project managers planned a large number of missions to obtain complete coverage of the Soviet Union as quickly as possible. At this time, the U-2 program focused solely on the collection of strategic intelligence.

Once operations began, however, project managers found themselves operating under severe constraints. Contrary to the CIA's expectations, the U-2 could not fly undetected. Its overflights led to Soviet diplomatic protests and numerous attempts at interception. Not wishing to aggravate the Soviet Union during periods of tension or to harm relations during more favorable intervals, President Eisenhower placed strict limits on overflights, personally authorizing each one and greatly limiting their number. Yet, the President never went so far as to eliminate the overflight program. As Commander in Chief, he valued the intelligence that the U-2 overflights collected, especially at times when the press and Congress alleged that the United States was falling behind the Soviet Union militarily, first in bombers and then in missiles. As a result of the President's ambivalence toward overflights, the years 1956-60 were marked by long periods during which no overflights occurred, followed by brief bursts of activity.

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The low level of overflight activity did not prevent the U-2 from accomplishing a lot in the four years it flew over the Soviet Union and Eastern Europe. Twenty-four U-2 missions made deep penetration overflights of the Soviet Union: six by Detachment A from Germany, three by Detachment C from the Far East and Alaska, and 15 by Detachment B from Turkey and Pakistan, including the unsuccessful Powers mission.

The amount of information these missions gathered was impressive. By the summer of 1960, the U-2 project had developed more than 1, 285,000 feet of film—a strip almost 250 miles long. The U-2s covered more than 1,300,000 square miles of the Soviet Union, approximately 15 percent of its total area. Information from U-2 photographs was used to prepare 5,425 separate photoanalytical reports.[1]

Numbers alone cannot describe the importance of the U-2 overflight project. In a 28 May 1960 memorandum, after Powers was shot down, DCI Allen W. Dulles described the program's accomplishments: "Five years ago, before the beginning of the U-2 program, . . . half knowledge of the Soviet Union and uncertainty of its true power position posed tremendous problems for the United States. We were faced with the constant risk of exposing ourselves to enemy attack or of needlessly expending a great deal of money and effort on misdirected military preparations of our own." Dulles went on to describe the U-2's contribution in gathering information on four critical aspects of the Soviet Union's power position: its bomber force, its missile force, its atomic energy program, and its air defense system.[2]

The first major contribution of intelligence collected from U-2 overflights was the exposure of the "bomber gap" as a myth. Contrary to the US Air Force's claims, the Soviet Union was not building a large force of long-range bombers. Armed with information from U-2 overflights, President Eisenhower was able to resist pressure to build a large US bomber fleet to meet a nonexistent Soviet threat.

[1] DCI Allen W. Dulles, Memorandum for Brig. Gen. Andrew J. Goodpaster, "Statistics Relating to the U-2 Program," 19 August 1960, Operation MUDLARK files, OSA records, job 74-B-605, box 2 (TS Codeword).

[2] The original draft of this document was probably written by James Q. Reber. It was then revised by DCI Dulles. "Accomplishments of the U-2 Program," 27 May 1960, Operation MUDLARK files, OSA records, job 74-B-605, box 2 (TS Codeword).

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The "bomber-gap" controversy was soon followed by a "missile-gap" controversy, provoked by an extensive Soviet propaganda campaign that claimed a substantial Soviet lead in developing and deploying ICBMs. U-2 missions searched huge stretches of the Soviet Union along the rail network, looking for ICBMs deployed outside the known missile testing facilities. These missions enabled the CIA to conclude, as Dulles explained to Congress in May 1960, that "the Soviet ICBM program has not been and is not now a *crash* program; instead, it is an orderly, well-planned, high-priority program aimed at achieving an early ICBM operational capability."[3] As with the controversy over Soviet bomber strength, information from U-2 photography enabled President Eisenhower to resist pressure to accelerate the US missile deployment program by building obsolescent liquid-fueled missiles rather than waiting to complete the development of more reliable solid-fueled missiles.

U-2 missions also gathered considerable data on the Soviet Union's atomic energy program, including the production of fissionable materials, weapons development and testing activities, and the location and size of nuclear weapons stockpile sites. Such U-2 photography also revealed no evidence that the Soviet Union had violated the nuclear testing moratorium.

One of the greatest contributions of the U-2 program was to increase the capabilities of the US deterrent force. Before the U-2 overflights, most target information was based on obsolete materials dating back to World War II or shortly thereafter. With the assistance of U-2 photography, the Defense Department could allocate weapons and crews more efficiently and identify many new targets. U-2 photos also proved invaluable in determining the precise location of targets. One further contribution to the capabilities of the US deterrent force was the information that U-2s collected on the Soviet air defense system. U-2 photography located Soviet fighter airfields and gained intelligence on new fighter models. Special electronic intercept and recording equipment carried on many U-2 missions enabled the CIA to analyze the technical characteristics, operational techniques, and radar order of battle of the Soviet Union's electronic defenses. This information was vital both for planning the routes for US deterrent forces and for developing electronic countermeasures.

[3] Ibid., p. 3 (TS Codeword).

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The U-2 program not only provided information on individual Soviet weapons systems, but also helped analysts assess basic Soviet intentions, particularly during crisis situations, as Dulles wrote in May 1960:

> *Whenever the international situation becomes tense because of a problem in some particular area, we are concerned whether the situation might get beyond control—that someone on the other side might suddenly and irrationally unleash big war.... Our knowledge of Soviet military preparations, however, resulting from the overflight program, has given us an ability to discount or call the bluffs of the Soviets with confidence. We have been able to conclude that Soviet statements were more rhetorical than threatening and that our courses of action could be carried through without serious risk of war and without Soviet interference.*[4]

Dulles closed his report on the U-2's accomplishments by putting the program in perspective as part of the entire national intelligence effort, noting that "in terms of reliability, of precision, of access to otherwise inaccessible installations, its contribution has been unique. And in the opinion of the military, of the scientists and of the senior officials responsible for our national security it has been, to put it simply, invaluable."

The impact of the U-2 overflights on international relations is harder to measure. On the one hand, the intelligence they gathered was a major factor in keeping the United States from beginning a costly and destabilizing arms race in the late 1950s and early 1960s by showing that the Soviet Union was not engaged in major buildups of strategic bombers and intercontinental ballistic missiles. On the other hand, violations of Soviet airspace by U-2s strained relations with Moscow at times and led to the collapse of the 1960 summit meeting. On balance, however, the impact of the U-2 on superpower relations was positive. Without the intelligence gathered by the U-2, the Soviet Union's strategic military capabilities would have remained a mystery, making it very difficult for the President to resist pressure from the military, the Congress, and the public to carry out major increases in strategic weapons, which would have poisoned relations with the Soviet Union far more than the small number of overflights did.

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[4] Ibid., pp. 9-10 (TS Codeword).

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PARTICIPATION OF ALLIES IN THE U-2 PROGRAM

From the very beginning of the overflight project, US Allies provided valuable support. Bases in Germany, Turkey [redacted] Pakistan played a major role in overflights of the Soviet Union. Bases in India, Thailand, Japan, and the Philippines greatly assisted operations in Asia. Two Allies—the United Kingdom and Nationalist China—made an even greater contribution to the U-2 program by providing pilots and conducting overflights. British pilots began flying in late 1958 and conducted two important overflights of the Soviet Union in late 1959 and early 1960. After the end of such missions in May 1960, the need for British participation lessened. RAF pilots henceforth flew only training or ferry missions, although their use for operational missions was considered on several occasions.

The end of overflights of the Soviet Union reduced the importance of British participation but resulted in the addition of a new source of pilots when the focus of interest for the U-2 in its strategic-intelligence-gathering role shifted to the People's Republic of China. The United States and Nationalist China had been conducting joint reconnaissance projects over the Chinese mainland since the mid-1950s, and in 1961 the CIA equipped the Nationalist Chinese with the latest in reconnaissance aircraft, the U-2. For the next 12 years, Agency U-2s with Nationalist Chinese pilots brought back large quantities of information on the development of Communist China's armed forces, nuclear technology, and economy. Such information was extremely important to US policymakers. Nationalist China paid a high price in lives for its participation in the U-2 program: seven pilots died (five in training accidents and two on overflights), and another three were captured.

U-2s AS COLLECTORS OF TACTICAL INTELLIGENCE

The low level of mission activity over the project's original target—the Soviet Union—was initially very frustrating for CIA project managers, but the U-2 soon found new missions not originally envisioned for the program. With its strategic-intelligence-collection role often on hold, the U-2 became highly useful as a collector of tactical intelligence during crisis situations.

Beginning with the Suez Crisis of 1956 and continuing with subsequent Middle Eastern wars, a rebellion in Indonesia, Sino-Indian border fighting, and culminating in support to the growing US

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involvement in Indochina, U-2 photography provided accurate and up-to-date intelligence to US policymakers and field commanders, assisting them in crisis management and the planning of military operations. Agency U-2s also assisted in monitoring cease-fire agreements in the Middle East, with operations occurring after an undeclared war in 1970 and the 1973 Middle East war.

By the time the OXCART became fully operational, manned strategic reconnaissance of the Soviet Union was no longer seriously considered. The political risks were too high, especially since the quality of intelligence from reconnaissance satellites was increasing steadily. Thus, the OXCART's only operational use was for collecting tactical intelligence in the Far East. Like the U-2, the OXCART gathered valuable intelligence during crisis situations. Thus, in January 1968, OXCART photography revealed the location of the USS Pueblo and showed that the North Koreans were not preparing any large-scale military activity in conjunction with the ship's seizure.

ADVANCES IN TECHNOLOGY

One very important byproduct of the CIA's manned reconnaissance program was the many advances in technology that it generated. Thanks to simplified covert procurement arrangements and the lack of detailed and restricting specifications, creative designers such as Kelly Johnson produced state-of-the-art aircraft in record time. The U-2, designed to carry out reconnaissance missions for two years at best, proved so successful that, even after its original area of activity became too dangerous for overflights at the end of four years, the aircraft served the CIA well for another 14 years and still is in service with other government agencies.

The OXCART is an even better example of the technological advances generated by the CIA's reconnaissance program. Although the OXCART was designed almost 30 years ago and first flown in 1962, its speed and altitude have never been equaled. The development of this aircraft also led to the use of new materials in aircraft construction. Unfortunately, the technological breakthroughs that made the OXCART possible took longer than expected. By the time the aircraft was ready for operations, the missions originally planned for it were not practicable. The tremendous technological achievement represented by the OXCART ultimately led to the aircraft's demise by inspiring the Air Force to purchase its own version of the aircraft. The

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government could not afford to maintain two such similar reconnaissance programs. The elimination of the Agency's OXCART program did not, however, spell the end of the usefulness of the world's most advanced aircraft; its offspring, the SR-71, is still in service.

In addition to the aircraft themselves, many other items associated with the reconnaissance program have represented important advances in technology. The flight suits and life-support systems of the U-2 and OXCART pilots were the forerunners of the equipment used in the space program. Camera resolution improved dramatically as the result of cameras and lenses produced for the CIA's reconnaissance program.

COOPERATION WITH THE AIR FORCE

In this history, which concentrates on the CIA's involvement in overhead reconnaissance, it is easy to overlook the important role that the US Air Force played in the U-2 and OXCART programs. From the very beginnings of the U-2 program in 1954, the Agency and the Air Force were partners in advancing the state of the art in overhead reconnaissance. Air Force personnel served at all levels of the reconnaissance program, from project headquarters to the testing site and field detachments. The Air Force supplied the U-2's engines, at times diverting them from other high-priority production lines. Perhaps most important of all, the Air Force provided pilots for the U-2s after the Agency's original attempt to recruit a sufficient number of skilled foreign pilots proved unsuccessful. Finally, the day-to-day operations of the U-2s could not have been conducted without the help of Air Force mission planners, weather forecasters, and support personnel in the field detachments. The cooperation between the Agency and the Air Force that began with the U-2 and continued with Project OXCART remains a major feature in US reconnaissance programs today.

IMPACT OF THE OVERHEAD RECONNAISSANCE PROGRAM ON THE CIA

CIA's entry into the world of overhead reconnaissance at the end of 1954 ultimately produced major changes in the Agency. Classical forms of intelligence—the use of covert agents and clandestine operations—gradually lost their primacy to the new scientific and

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technical means of collection. As soon as the U-2 began flying over the Soviet Union, its photographs became the most important source of intelligence available. The flood of information that the U-2 missions gathered led to a major expansion of the Agency's photointerpretation capabilities, which finally resulted in the creation of the National Photographic Interpretation Center to serve the entire intelligence community.

The U-2's tremendous success as an intelligence-gathering system led the Agency to search for follow-on systems that could continue to obtain highly reliable information in large quantities. Thus, the CIA sponsored the development of the world's most advanced aircraft—the OXCART—and also pioneered research into photosatellites. Less than a decade after the U-2 program began, the Agency's new emphasis on technical means of collection had brought about the creation of a new science-oriented directorate, which would ultimately rival in manpower and budget the Agency's other three directorates combined.

The negative aspect of this new emphasis on technology is exploding costs. The Agency's first strategic reconnaissance aircraft, the U-2, cost less than $1 million apiece. With the U-2's successor, the OXCART, each aircraft cost more than $20 million, and the cost explosion has continued with each new generation of reconnaissance satellites.

Perhaps the greatest significance of the CIA's entry into the world of overhead reconnaissance in December 1954 was the new national policy that it signaled. Although US military aircraft had frequently violated Soviet airspace in the decade after World War II, such shallow-penetration overflights, concentrating primarily on order-of-battle data, had been authorized and controlled by US field commanders, not by the President. In the autumn of 1954, however, President Dwight D. Eisenhower—determined to avoid another Pearl Harbor—authorized the construction of a new aircraft designed solely to fly over the Soviet Union and gather strategic intelligence. Peacetime reconnaissance flights over the territory of a potential enemy power thus became national policy. Moreover, to reduce the danger of conflict, the President entrusted this mission not to the armed forces, but to a civilian agency—the CIA. From that time forward, overhead reconnaissance has been one of the CIA's most important missions.

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APPENDIX A

Acronyms

AEC	Atomic Energy Commission
AFB	Air Force Base
AFDAP	Air Force office symbol for the Assistant for Development Planning under the Deputy Chief of Staff for Development
AMD	Air/Maritime Division
ARC	Ad Hoc Requirements Committee
ARDC	Air Research and Development Command (USAF)
ASPIC	Asian Photographic Interpretation Center
ATIC	Air Technical Intelligence Center (USAF)
BSAP	Boston Scientific Advisory Panel
BUORL	Boston University Optical Research Laboratory
COMINT	Communications Intelligence
COMIREX	Committee on Imagery Requirements and Exploitation
COMOR	Committee on Overhead Reconnaissance
DB	"Dirty Bird"
DCI	Director of Central Intelligence
DCID	Director of Central Intelligence Directive
DDCI	Deputy Director of Central Intelligence
DDI	Deputy Director for Intelligence
DDP	Deputy Director (or Directorate) for Plans
DDS&T	Deputy Director for Science and Technology
DPD	Development Projects Division
DPS	Development Projects Staff
ECM	Electronic Countermeasures
EG&G	Edgerton, Germeshausen & Grier, Incorporated
ELINT	Electronic Intelligence
FCRC	Federally Controlled Research Center
HASP	High-Altitude Air Sampling Program
IAC	Intelligence Advisory Committee
IAS	Indicated air speed
IC	Intelligence community
ICBM	Intercontinental ballistic missile
IR	Infrared
ISP	Intelligence Systems Panel (USAF)
JRC	Joint Reconnaissance Center
MATS	Military Air Transport Service (USAF)

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MRBM	Medium-range ballistic missile
NACA	National Advisory Committee for Aeronautics
NAS	Naval air station
NASA	National Aeronautics and Space Administration
NIE	National Intelligence Estimate
NPIC	National Photographic Interpretation Center
NSA	National Security Agency
NSC	National Security Council
NSCID	National Security Council Intelligence Directive
ODM	Office of Defense Mobilization
ORR	Office of Research and Reports
OSA	Office of Special Activities
OSI	Office of Scientific Intelligence
PBCFIA	President's Board of Consultants on Foreign Intelligence Activities
P-E	Perkin-Elmer Company
PFIAB	President's Foreign Intelligence Advisory Board
PI	Photointerpreter
PIC	Photographic Intelligence Center
PID	Photo-Intelligence Division
PSAC	President's Science Advisory Committee
RAF	Royal Air Force
RFP	Request for proposal
SAB	Scientific Advisory Board (USAF)
SAC	Science Advisory Committee
SAC	Strategic Air Command
SA/PC/DCI	Special Assistant to the DCI for Planning and Coordination
SAM	Surface-to-air missile
SEI	Scientific Engineering Institute
SENSINT	Sensitive intelligence (USAF)
SLAR	Side-looking aerial radar
TAS	True air speed
TCP	Technological Capabilities Panel
USIB	United States Intelligence Board
WADC	Wright Air Development Command (USAF)
WRSP	Weather Reconnaissance Squadron, Provisional

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APPENDIX B

Key Personnel

AYER, Frederick, Jr.
Special assistant to Trevor Gardner in the Office of the Secretary of the Air Force, Ayer was a strong advocate of overhead reconnaissance by balloons and an early supporter of Lockheed's CL-282 design.

BAKER, James G.
Harvard astronomer and lens designer, Baker was a leading designer of high-acuity aerial lenses during World War II and continued this work after the war. He also headed the Air Force Intelligence Systems Panel and served on the Technological Capabilities Panel's Project Three committee that urged the development of the U-2 aircraft. Baker designed the lenses for the U-2's cameras.

BISSELL, Richard M., Jr.
Head of all CIA overhead reconnaissance programs from 1954 until 1962, a former economics professor at MIT and high official of the Marshall Plan, Bissell became Allen W. Dulles's Special Assistant for Planning and Coordination in January 1954 and received responsibility for the new U-2 project at the end of that year. Later he also headed the first photosatellite project and oversaw the development of the OXCART. In 1959 Bissell became Deputy Director for Plans but kept the reconnaissance projects under his control. He resigned from the CIA in February 1962.

CABELL, George Pearre
Air Force general and DDCI from 1953 until 1962. Because of Cabell's many years of experience in aerial reconnaissance, DCI Dulles delegated most of the responsibility for the reconnaissance projects to him.

CARTER, Marshall S.
Army general who served as DDCI from 1962 until 1965. During the period leading up to the Cuban Missile Crisis, Carter served as Acting DCI on a number of occasions while DCI McCone was out of town. In October 1962 he fought unsuccessfully to keep the CIA involved in flying reconnaissance missions over Cuba. Carter became the Director of the National Security Agency in 1965.

CHARYK, Joseph R.
An aeronautical engineer who had followed careers first in academia and then the aerospace industry, Charyk became the Chief Scientist of

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the Air Force in January 1959. Five months later he moved up to Assistant Secretary of the Air Force for Research and Development, and the following year he became Under Secretary of the Air Force. In these positions he was involved in coordination with the CIA on both the U-2 and OXCART projects. In 1963 Charyk left government to become the first chairman of the Communications Satellite Corporation.

CUNNINGHAM, James A., Jr.
An ex–Marine Corps pilot, he became the administrative officer for the U-2 project in April 1955. Cunningham handled the day-to-day management of the U-2 program and brought only the more complex problems to Richard Bissell's attention. Later he served as the Deputy Director of the Office of Special Activities and then Special Assistant to the Deputy Director for Science and Technology.

DONOVAN, Allen F.
An aeronautical engineer who had helped to design the P-40 fighter while working at the Curtiss-Wright Corporation, Donovan was one of the founders of the Cornell Aeronautical Laboratory after World War II. He served on several Air Force advisory panels and was a strong advocate of the proposed Lockheed CL-282 aircraft. Later he became vice president of the Aerospace Corporation.

DOOLITTLE, James H.
A vice president of Shell Oil Company and an Army Air Force reserve general, Doolittle headed General Eisenhower's Air Staff during World War II. After the war Doolittle served on many Air Force advisory panels, and in 1954 he chaired a special panel investigating the CIA's covert activities. Doolittle also served on the Technological Capabilities Panel and the President's Board of Consultants on Foreign Intelligence Activities.

DUCKETT, Carl E.
Headed the Directorate of Science and Technology from September 1966 until May 1976, first as Acting Deputy Director and then as Deputy Director beginning in April 1967. During his tenure, the emphasis in the CIA's overhead reconnaissance program shifted from aircraft to satellites.

DULLES, Allen W.
DCI from 1953 until 1961. Although initially reluctant to see the CIA involved in aerial reconnaissance, which he viewed as the military's area of responsibility, Dulles became a strong supporter of the U-2

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program when he saw how much intelligence it could gather on the Soviet Union. Because his own interests lay more in the area of human intelligence, he left the management of the reconnaissance program in the hands of DDCI Cabell and project director Richard Bissell.

GARDNER, Trevor
During World War II, Gardner worked on the Manhattan Project, and later he headed the General Tire and Rubber Company before starting his own research and development firm, the Hycon Company, which built aerial cameras. Gardner served as the Secretary of the Air Force's Special Assistant for Research and Development and then as the Assistant Secretary for Research and Development during Eisenhower's first term of office. Gardner's concern about the danger of a surprise attack helped lead to the establishment of the Technological Capabilities Panel. Gardner also urged the building of Lockheed's CL-282 aircraft.

GEARY, Leo P.
Air Force colonel (later brigadier general) who was James Cunningham's Air Force counterpart in the U-2 program. He was instrumental in diverting engines from other Air Force projects for use in the U-2, and his 10 years with the U-2 project provided a high degree of continuity.

GOODPASTER, Andrew J.
An Army colonel who served as President Eisenhower's Staff Secretary from 1954 to 1961. During this period, he was the CIA's point of contact in the White House for arranging meetings with the President on the subject of overhead reconnaissance. Goodpaster's later career included service as the supreme commander of NATO and then commandant of the US Military Academy at West Point.

HELMS, Richard M.
DCI from 1966 to 1973. During his tenure as DCI, the CIA's manned reconnaissance program came under heavy pressure because of competition from the Air Force's reconnaissance program.

JOHNSON, Clarence L. (Kelly)
One of the nation's foremost aeronautical designers, Kelly Johnson graduated from the University of Michigan's School of Aeronautics in 1933 and began working for the Lockheed Aircraft Corporation. During World War II he designed the P-38 fighter, and after the war his design successes continued with the F-104 jet fighter, the Constellation airliner, and the CIA's two strategic reconnaissance aircraft, the U-2 and the OXCART A-12.

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KIEFER, Eugene P.
An Air Force officer with a degree in aeronautical engineering who in 1953 informed a friend at Lockheed of the Air Force's search for a high-altitude reconnaissance aircraft, thus, leading to the initial design of the CL-282. After leaving the Air Force, Kiefer became Richard Bissell's technical adviser for the OXCART and photosatellite programs.

KILLIAN, James R., Jr.
President of the Massachusetts Institute of Technology, Killian headed a high-level and very secret study of the nation's ability to withstand a surprise attack. While this project was still under way, he and Edwin Land persuaded President Eisenhower to support the development of a high-altitude reconnaissance aircraft, the U-2. Later, Killian headed Eisenhower's Board of Consultants for Foreign Intelligence Activities, served as his Cabinet-level science adviser, and chaired the President's Science Advisory Board. Killian was also chairman of the President's Foreign Intelligence Advisory Board under John F. Kennedy.

LAND, Edwin H.
An extremely talented inventor famous for the development of polarizing filters and the instant-film camera. Land also devoted considerable time and energy to voluntary government service. During World War II, Land worked for the Radiation Laboratories, and after the war he served on numerous Air Force advisory panels. As the head of the Technological Capabilitites Panel's study group investigating US intelligence-gathering capabilities, Land became a strong advocate of the development of a high-altitude reconnaissance aircraft (the CL-282) under civilian rather than Air Force control. Land and James Killian persuaded President Eisenhower to approve the U-2 project and later the first photosatellite project. Land also served on the President's Board of Consultants for Foreign Intelligence Activities.

LEGHORN, Richard S.
An MIT graduate in physics, Leghorn joined the Army Air Force in 1942 and went to work for reconnaissance expert Col. George Goddard. By the time of the invasion of Europe, Leghorn was chief of reconnaissance for the 9th Tactical Air Force. After the war, Leghorn began preaching the need for "pre-D-day" reconnaissance in order to gather intelligence on the Soviet Bloc. He returned to the Air Force during the Korean war and later worked for Harold Stassen's Disarmament Office. In 1956 he became the head of the Scientific

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Engineering Institute, an Agency proprietary working on ways to reduce the U-2's vulnerability to radar detection. In 1957 he founded Itek Corporation.

LUNDAHL, Arthur E.
A Navy photointerpreter during World War II and afterward. Lundahl became the chief of the Photo-Intelligence Division in 1953. To support the U-2 project, he established a separate photointerpretation center under Project HTAUTOMAT. Under his leadership the Photo-Intelligence Division grew rapidly and achieved office status as the Photographic Intelligence Center in 1958. In 1961 Lundahl became the first head of the National Photograhic Interpretation Center, which combined the photointerpretation efforts of the CIA and the military services.

McCONE, John A.
DCI from 1961 to 1965. A strong supporter of the CIA's manned reconnaissance program, McCone presided over the OXCART's main period of development and pushed for a greater role for the CIA in its joint reconnaissance programs with the Department of Defense.

MILLER, Herbert I.
Miller worked in the Office of Scientific Intelligence's nuclear branch and became Richard Bissell's first deputy for the U-2 project. He later left the Agency to work for the Scientific Engineering Institute.

NORTON, Garrison
An assistant to Trevor Gardner, Norton became an early supporter of the Lockheed CL-282 and started the CIA's interest in overhead reconnaissance by informing Philip Strong about the aircraft. Norton later became Navy Assistant Secretary for Research and Development and was involved with the OXCART program.

OVERHAGE, Carl F. J.
After working on the development of Technicolor, Overhage went to work for Kodak. He headed the Beacon Hill Panel in 1952 and later became director of Lincoln Laboratories.

PARANGOSKY, John N.
Parangosky worked for Richard Bissell's Development Projects Staff in the mid-1950s. He served as deputy chief of the Adana U-2 unit in 1959 and became project manager of the OXCART program from its inception through the test flight stage.

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PERKIN, Richard S.
President of the Perkin-Elmer Corporation, Perkin was a close friend of James Baker and was also a member of several advisory panels, including the BEACON HILL project. He helped Baker decide what cameras to use in the first U-2 aircraft.

POWERS, Francis Gary
An Air Force Reserve Officer who became a CIA U-2 pilot in 1956, Powers flew 27 successful missions before being shot down over the Soviet Union on 1 May 1960. After his return to the United States in exchange for Soviet spymaster Rudolf Abel in 1962, Powers was cleared of all allegations of misconduct in his mission, capture, trial, and captivity. He became a test pilot for Lockheed and later piloted light aircraft and helicopters for radio and television stations. He died in a helicopter crash on 1 August 1977.

PURCELL, Edward M.
A physicist who won a Nobel prize in 1954 for his work in nuclear resonance, Purcell served on a number of advisory bodies, including the USAF Scientific Advisory Committee and Edwin Land's Technological Capabilities Panel study group. It was Purcell's ideas for reducing the radar cross section of the U-2 that led to the OXCART program. Purcell also contributed to the satellite programs.

RABORN, William F., Jr.
DCI from 1965 to 1966. Raborn pushed for the deployment of OXCART to the Far East but failed to sway the top officials of the Johnson administration.

REBER, James Q.
After serving as the Assistant Director for Intelligence Coordination in the early 1950s, Reber became the chairman of the Ad Hoc Requirements Committee in 1955 and continued to chair this committee after it was taken over by the US Intelligence Board in 1960 and renamed the Committee on Overhead Requirements. In 1969 he became the chairman of the USIB's SIGINT Committee.

RODGERS, Franklin A.
Formerly of MIT, Rodgers was the chief engineer at the Scientific Engineering Institute who converted the theories of Edward Purcell into practical systems to reduce the radar image of the U-2 and especially the OXCART.

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SCHLESINGER, James R.
DCI from February to July 1973, Schlesinger supported the Nixon administration's proposal to terminate the Agency's U-2 program.

SCOTT, Roderic M.
An engineer with Perkin-Elmer who worked with James Baker in designing the first cameras for use in the U-2. Scott helped design the 30001 camera for the OXCART.

SCOVILLE, Herbert, Jr.
In February 1962 Scoville became the first Deputy Director for Research, which took over control of the Agency's reconnaissance programs from the Deputy Director for Plans. Frustrated by the lack of support from the DCI and the other directorates, he resigned in June 1963.

SEABERG, John
An aeronautical engineer who was recalled to active duty with the Air Force during the Korean war, Seaberg drafted the first specifications for a high-flying jet reconnaissance aircraft in 1953.

STEVER, H. Guyford
A professor of aeronautical engineering at MIT, Stever served on numerous Air Force advisory panels and later became the Air Force's chief scientist.

STRONG, Philip G.
Chief of collection in the Office of Scientific Intelligence, Strong kept himself well informed on developments in overhead reconnaissance and attended many Air Force advisory panel meetings as an observer. In 1954 he learned about the Lockheed CL-282 design and passed the information on to Edwin Land's study group investigating US intelligence-gathering capabilities.

WHEELON, Albert ("Bud") D.
Wheelon became the Deputy Director for Science and Technology in August 1963 following the reorganization and renaming of the Deputy Director for Research. He held this position until September 1966.

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APPENDIX C

Electronic Devices Carried by the U-2

From the beginning the U-2 was envisioned as more than a camera platform. In fact, the U-2 would ultimately carry only five types of photographic equipment but more than 20 different types of electronic devices, some for collecting electronic intelligence (ELINT), others ("ferret" equipment) for gathering intelligence on foreign radars, and a few for self-protection—electronic countermeasures to defeat enemy missile-control radars.

The various electronic, countermeasures and intelligence-gathering systems designed for the U-2 received designations using Roman numerals—Systems I through XXII. The first seven devices were built by the Ramo-Wooldridge firm, now part of the TRW Corporation. System-I used S- and X-band ELINT receivers to collect ground-controlled intercept and air defense signals. Weighing only 7.7 kilograms, this system was aboard all U-2s from 1955 through 1959. System-II, a communications and navigation system, never worked properly and was canceled. System-III, a 16-kilogram VHF recorder for communications intelligence (COMINT), was never used and was transferred to the Navy in 1958. System-IV, a ferret device that recorded electromagnetic energy in the 150- to 4,000-MHz range was used on 16 missions between 1957 and 1959, when it was given to the Air Force. System-V was similar to System-I but covered nine wave bands. The device was so heavy that U-2s using it could not carry a camera system. System-V was used on only three missions and was replaced by the lighter weight System-VI that covered the P-, L-, S-, and X-band frequencies and could be used with either the A or B camera. System-VI was used from 1959 through 1966.

The growing need for data on Soviet missile development led to a contract with the firm of Haller-Raymond-Brown (HRB) to build a missile-telemetry intercept system as quickly as possible. The resulting device (System-VII) could record up to 12 minutes of data from six simultaneous frequencies. This unit first saw service on 9 June 1959 and was used on another 22 missions during the next year. Following modifications to make System-VII suitable for use by the Navy, the designation was changed to System-VIII.

System-IX was an electronic-countermeasures (ECM) device for generating false-angle information in response to X-band radar pulses from surface-to-air missile radars. Also known as the Mark-30, the

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unit was manufactured by the Granger Company. One of these devices was aboard Gary Powers' U-2 when he was shot down.

System-X was a modification of the HRB's System-VII that was specially built in 1962 for a mission over the Soviet Union that never took place. Systems-XI through XV were ECM devices used by U-2s overflying China and North Vietnam during the Vietnam war. System-XVI was a passive ELINT collector.

System-XVII was built by HRB-Singer as a result of an October 1963 USIB requirement for the collection of antiballistic-missile (ABM) data from Saryshagan. The system was to be deployed in a U-2 that would fly over western China, along the Sino-Soviet border, collecting data on the ABMs being tested at Saryshagan. By the time the unit was completed in 1965, however, the tipoff time before test launches had been reduced from almost 24 hours to less than an hour, making it impossible to stage U-2 missions in time to collect the data.

In the late 1960s, additional ECM systems were needed to counter the increasing threats posed by more accurate SAMs and higher flying aircraft. System-XX was specifically designed to counter the acquisition and guidance radars used by MIG aircraft, and System-XXII was an infrared jammer to counter air-to-air missiles. System-XXI, a COMINT package that replaced the much older System-III, was originally developed for the OXCART program and was later adapted for use aboard the follow-on U-2, the U-2R.

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APPENDIX D

U-2 Overflights of the Soviet Union, 4 July 1954–1 May 1960

Date	Mission	Pilot	Airfield	Unit	Payload	Route
4 July 1956	2013	Stockman	Wiesbaden	A	A-2	East Germany, Poland, Minsk, Leningrad, Estonia, Latvia, Poland
5 July 1956	2014	Vito	Wiesbaden	A	A-2	East Germany, Warsaw, Minsk, Moscow, Estonia, Latvia, Lithuania, Poland
9 July 1956	2020	Knutson	Wiesbaden	A	A-2	East Germany, Poland, Minsk, Poland
9 July 1956	2021	Overstreet	Wiesbaden	A	A-2	Czechoslovakia, Vienna, Hungary, L'vov, Kiev, Minsk, Poland
10 July 1956	2024	Dunaway	Wiesbaden	A	A-2	Poland, Kishinev, Kerch', Sevastopol', Simferopol', Odessa, Romania, Hungary
20 November 1956	4016	Powers	Adana	B	A-2	Iran, Yerevan, Baku, Astara, Caucasus
18 March 1957	4020	Cherbonneaux	Adana	B	Sys-V	Soviet border to Afghanistan, Azerbaijan, Armenia, Georgia
20 June 1957	6005	Rand	Eielson	C	B	Khaylyulya, Ust'-Kamchatsk, Kozyrevsk, Karaganskiy-Ostrov
5 August 1957	4035	Edens	Lahore	B	B	Afghanistan, Tashkent, Tyuratam, Kazalinsk, Aral Sea
11 August 1957	4039	McMurray	Lahore	B	B	Alma-Ata, Ust'-Kamenogorsk, Sinkiang
21 August 1957	4045	Snider	Lahore	B	A-2	Novokuznetsk, Tomsk
21 August 1957	4048	Jones	Lahore	B	A-2	Lake Balkhash, Karaganda, Omsk, Alma-Ata

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APPENDIX D

U-2 Overflights of the Soviet Union, 4 July 1954–1 May 1960 (continued)

Date	Mission	Pilot	Airfield	Unit	Payload	Route
22 August 1957	4049	Birkhead	Lahore	B	A-2	Merket Bazar, Kuldja, Abakan, Krasnoyarsk, Kansk, Sinkiang
22 August 1957	4050	Cherbonneaux	Lahore	B	A-2	Lake Balkhash, Semipalatinsk, Barnaul, Prokop'yevsk, Novokuznetsk, Leninogorsk
28 August 1957	4058	Jones	Lahore	B	A-2	Dushanbe, Tashkent, Tyuratam, Kazalinsk, Aral Sea
10 September 1957	4059	Hall	Adana	B	A-2	Krasnovodsk, Gur'yev, Astrakhan', Tbilisi
16 September 1957	6008	Baker	Eielson	C	A-2	Kamchatka Peninsula, Milkovo
13 October 1957	2040	Stockman	Giebelstadt	A	A-2	Norway, Finland, Murmansk, Kandalaksha
1 March 1958	6011	Crull	Atsugi	C	A-2	Dal'nerechensk, Khabarovsk, Blagoveshchensk, Belagorsk, Komsomolsk, Sovetskaya Gavan'
9 July 1959	4125	Knutson	Peshawar	B	B	Tyuratam for suspected Sputnik launch
6 December 1959	8005	Robinson [a]	Peshawar	B	B	Kuybyshev, Kapustin Yar, Caucasus
5 February 1960	8009	MacArthur [a]	Peshawar	B	B	Tyuratam, Kazan
9 April 1960	4155	Erickson	Peshawar	B	B	Lake Balkhash, Semipalatinsk, Kyzylespe, Dzhezhkazgan, Tyuratam
1 May 1960	4154	Powers	Peshawar	B	B	Tyuratam, Kyshtym, Sverdlovsk; downed by SAM

[a] RAF pilot

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APPENDIX E

Unmanned Reconnaissance Projects

AQUILINE

In the early 1960s, there were many problems in obtaining coverage of hostile territory. The U-2 was too vulnerable to Soviet surface-to-air missiles, as had been demonstrated by losses over the Soviet Union, Cuba, and the People's Republic of China. The OXCART was still under development and even when completed might prove vulnerable to Soviet radars and missiles. Although safe from interception, the newly developed photosatellites could not provide coverage of a desired target on short notice. Because several of the intelligence community's primary targets such as Cuba and the new Soviet radar installation at Tallinn (Estonia) were not located deep in hostile territory, CIA scientists and engineers began to consider the possibility of using small, unmanned aircraft for aerial reconnaissance. They believed that recent advances in the miniaturization of electronic technology would make possible the development of a reconnaissance vehicle with a very-low-radar cross section and small visual and acoustical signatures. Such a vehicle could reconnoiter an area of interest without the hostile country realizing that it had been overflown.

In mid-1965, David L. Christ, chief of the Office of Research and Development's Applied Physics Division, and Frank Briglia of the same office began working on the concept of a small, inexpensive aircraft that would be about the size of a large bird and could carry various payloads for photography, nuclear sensing, and ELINT collection. ORD soon formed a Special Projects Group to develop the aircraft with Briglia as the project manager. Only one firm—the Douglas Aircraft Company—responded favorably to a request for proposal to study the feasibility of a low-altitude reconnaissance system. On 15 November 1965, Douglas received a study contract. This was followed by two Agency contracts on 21 November 1966 for the development of an operational low-altitude intelligence-gathering system. Further contracts followed in 1968 and 1969.

The AQUILINE prototype developed by Douglas Aircraft (which became part of McDonnell-Douglas in 1969 as the result of a merger) was essentially a powered glider with an 8.5-foot wingspan. The aircraft weighed only 105 pounds. AQUILINE's tail-mounted engine drove a two-bladed propeller. Powered by a small 3.5-horsepower two-cycle engine originally developed by the McCullough

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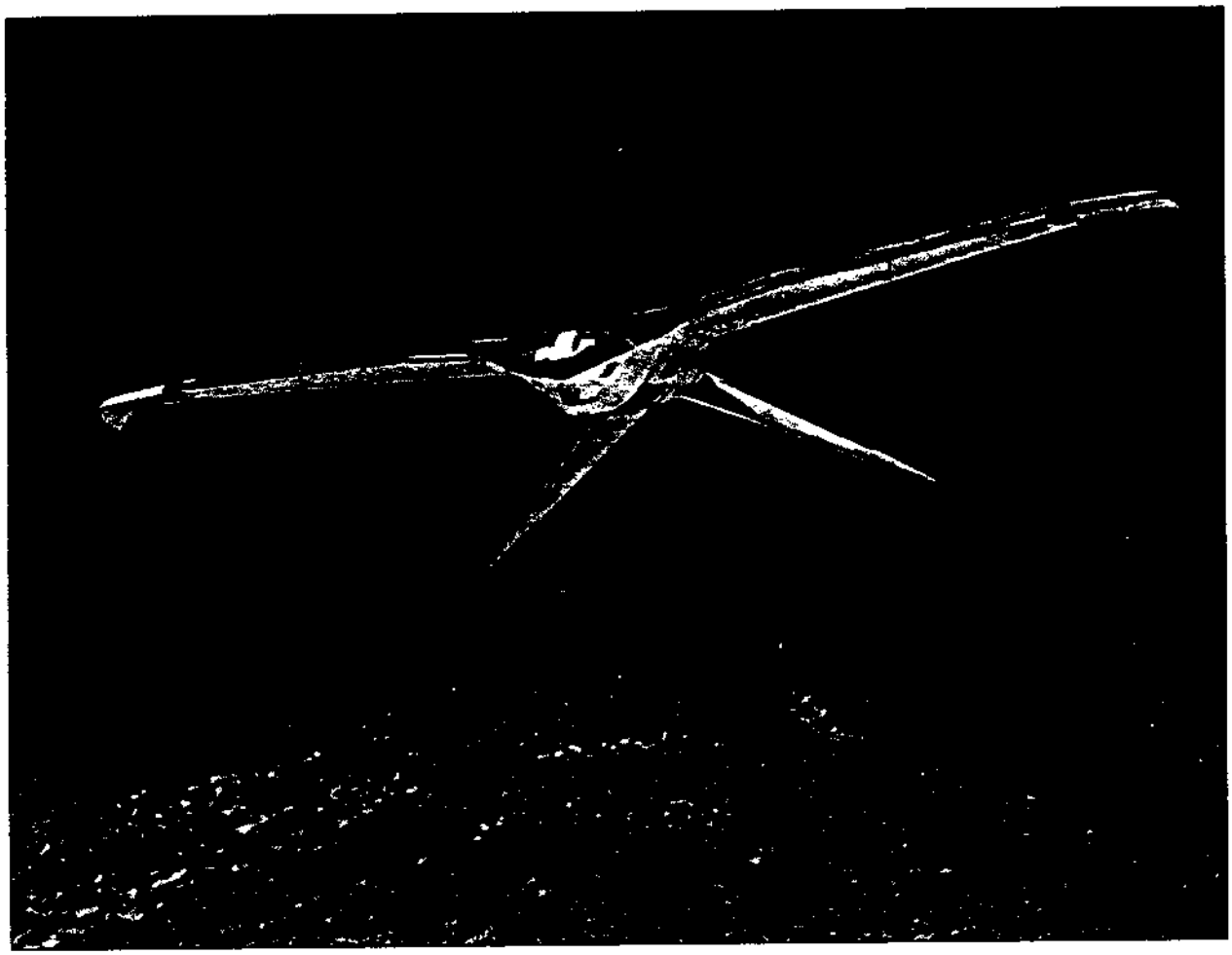

Project AQUILINE

Corporation for chainsaws

In 1968 tests on an AQUILINE prototype at Randsburg Wash on the US Navy's Naval Ordnance Test Station at China Lake, California, showed that the aircraft was extremely difficult to see. To assist pilots of chase aircraft in keeping AQUILINE in sight, its entire upper surface was painted bright orange; even so, sighting remained difficult.

The testing process was very hard on AQUILINE because it was recovered by flying it into a net close to the ground, which almost always caused some damage to the wings or propeller. As a result, one

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or more of the aircraft was always being repaired, and eventually three of the five AQUILINE prototypes were destroyed in testing.

[redacted]

At this point the project was turned over to the Office of Special Activities for operational testing [redacted] Flight tests showed the aircraft to be successful by the standards originally set for the project in 1967, as it flew 130 miles and obtained very high resolution photography of a target before returning successfully to the original launchsite. However, improving AQUILINE sufficiently to make it a practical long-range reconnaissance system was estimated to cost another $35 million and take two to three years. On the recommendation of DDS&T Carl Duckett on 1 November 1971, Project AQUILINE was canceled. [redacted]

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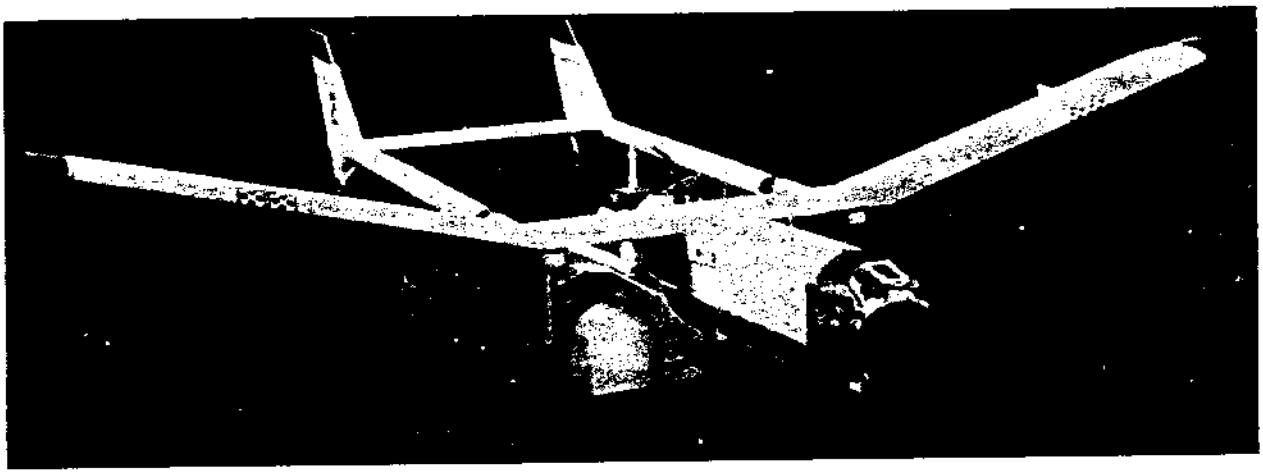

Project AXILLARY

AXILLARY

While Project AQUILINE was still under development, its chief aerodynamicist, Charles N. Adkins, left the program because he believed that its escalating costs would prevent it from ever producing a deployable aircraft. He wanted to build a small, inexpensive remote-controlled aircraft to test a low-cost lightweight autopilot currently being developed by ORD. Under a $5,000 time-and-materials contract with Melpar, Incorporated, Adkins hired a local model aircraft builder to assemble and modify a standard Hawk-750 glider kit and power it with a rear-mounted engine and pusher propeller. Following a series of successful test flights, Adkins installed a small camera and took a number of aerial photographs.

By this time the effort to build a "Miniature Multi-Purpose Airborne Vehicle" had become known as Project AXILLARY. Melpar, Inc., received a second contract for $50,000 to install ORD's autopilot in the aircraft, and the project managers now began searching for a use for their vehicle. The two main possibilites were (1) as a short-range reconnaissance vehicle for use in a peace-monitoring or intelligence-gathering system and (2) as a short-range warhead delivery system. In 1971 the Office of Special Activities evaluated AXILLARY flight-testing and determined that the small model aircraft was not suitable for use as a covert reconnaissance vehicle because of its large radar cross section and significant accoustical signature. The aircraft's radar signature made it potentially useful as a weapons systems, however. ORD suggested that AXILLARY be equipped with a radar-homing unit [redacted] which would make it an inexpensive means for [redacted] surface-to-air missile systems in North Vietnam. The Director of

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Defense Research and Engineering, John Foster, liked the concept and provided DOD funding for ORD to develop two versions of AXILLARY, one with a radar-homer and one with a television reconnaissance package. The radar homing system proved successful as AXILLARY sought out and destroyed a radar during testing at China Lake Naval Air Station. However, the end of US involvement in Vietnam in early 1973 led to the cancellation of further DOD funding, and AXILLARY was placed on the shelf.

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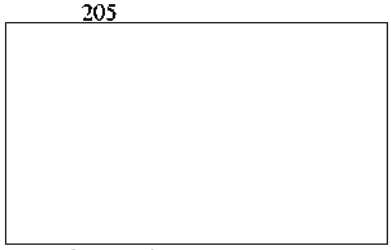

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INQUIRE=DOC35D
ITEM NO=00289316
DTG 261107Z JUN 96
FROM FM FBIS LONDON UK
TO TO RUCWAAA/FBIS RESTON VA
RHDLCNE/CINCUSNAVEUR LONDON UK//N2//
RHEBAAA/DOE WASH DC//NN-30//
RHFPAAA/UTAIS RAMSTEIN AB GE//INOW//
RHFTAAA/OSIA EUROPE RHEIN MAIN AB GE
RHHJJAA/JICPAC HONOLULU HI
RHHJJPI/PACOM IDHS HONOLULU HI
RHHMUNA/USCINCPAC HONOLULU HI
RUCBAIC/AIC NORFOLK VA
RUCBAIC/AIC NORFOLK VA//DIIC//
RUCOXAQ/FITRON ONE ZERO ONE//320//
RUCWAAA/FBIS RESTON VA//MIL//
RUDKFMA/STOCKHOLM SWC
RUDKPN/AMEMBASSY COPENHAGEN
RUDKTA/AMEMBASSY TALLINN
RUDKVN/AMEMBASSY VILNIUS
RUDMONI/ONI WASHINGTON DC//2140//
RUDPMAX/FAISA FT BRAGG NC
RUDPWDC/DA AMHS WASHINGTON DC
RUEAIIS/STORAGE CENTER FBIS RESTON VA
RUEALGX/DEFINTAGNCY WASH DC
RUEDADI/AFOSI IOC BOLLING AFB DC
RUEHC/SECSTATE WASHINGTON DC//INR/CEE//
RUEHHE/AMEMBASSY HELSINKI
RUEHMO/AMEMBASSY MOSCOW
RUEHRA/AMEMBASSY RIGA
RUEHVEN/USMISSION USVIENNA
RUEOAYA/CDR NGIC CHARLOTTESVILLE VA
RUERBFA/CDR2DAD FT HOOD TX//G2 ACE//
RUESFV/FBIS VIENNA AU
RUESFW/FBIS WARSAW PL
RUESMF/FBIS MOSCOW RS
RUETIAV/MPC FT GEO G MEADE MD
RUFDNEU/CDR USASETAF VICENZA IT//AESE-CMO//
RUFGAID/USCINCEUR INTEL VAIHINGEN GE
RUFOADA/JAC MOLESWORTH RAF MOLESWORTH UK
RUFQBBA/US SURVEY SEC SHAPE BE
RUHBABA/CG III MEF//G-2//
RUWSMXI/AMC INTEL CEN SCOTT AFB IL//INO//
RUWSMXI/USCINCTRANS INTEL CEN SCOTT AFB IL//J2-O/J2-J//
RUWTNOK/HQ USSPACECOM PETERSON AFB CO//POLAD//
RXDBHW/CINCNORTHWEST UAJ
RXFNDA/COMMNORTH//JOINTINT//
RXFPSH/SHAPE BE//PIO//
CONTROLS
UNCLAS 3V/LITH CISMIL

Approved for Release
Date MAR 1997

WARNING: ATTN WSPOPO

SERIAL: LD2606110796

BODY
COUNTRY: LITHUANIA
SUBJ: POLICE OFFICERS SPOT UFO; RAPID REACTION FORCE ALERTED

SOURCE: MOSCOW ITAR-TASS WORLD SERVICE IN RUSSIAN 0920 GMT 26 JUN 96

TEXT:

BY VLADAS BURBULIS

FBIS TRANSLATED TEXT VILNIUS, 26 JUN -- AN UNIDENTIFIED FLYING OBJECT (UFO), SPOTTED NEAR THE LITHUANIAN BORDER ON 25 JUNE BY TWO DUTY MOTOR POLICE PATROL OFFICERS JAUNIUS POZERA AND LAIMIS KRAUJALIS PLACED THE WHOLE VILIUS POLICE ON THE ALERT. VEHICLE LOADS OF SOLDIERS FROM THE ARAS RAPID REACTION FORCE, SNIFFER DOGS AND POLICE REINFORCEMENTS IMMEDIATELY ARRIVED ON THE SCENE OF THE EMERGENCY.

ACCORDING TO THE EYEWITNESS'S ACCOUNTS, AT ABOUT 0030 IN THE EARLY MORNING, ON THE VILNIUS-MEDININKAI ROAD, NEAR THE VILLAGE OF NEMEZIS, 10 KM FROM THE CAPITAL, AT AN ALTITUDE OF 20-30 METERS ABOVE THE GROUND, THEY NOTICED A SPHERICAL OBJECT HANGING AND "PULSING," ALTERNATELY SHRINKING AND EXPANDING. AT THE SAME TIME, THEY HEARD WHAT THEY DESCRIBED AS "A STRANGE SOUND LIKE AN ELECTRIC OR ELECTRONIC CRACKLE," WANTING TO TAKE A CLOSER LOOK AT THE UFO, THE POLICEMEN MOVED TOWARD IT. WHEN THEY HAD ADVANCED ABOUT 50 METERS THROUGH THE LONG GRASS, THE POLICE SAID, THE SPHERE MOVED AWAY, ROSE HIGHER AND RAPIDLY DEPARTED IN THE DIRECTION OF VILNIUS.

THE POLICEMEN WATCHED THE UFO FOR ABOUT HALF AN HOUR. ON THEIR ARRIVAL AT THE SCENE OF THE "EMERGENCY", MEMBERS OF THE CIVIL DEFENSE DEPARTMENT, SERVICEMEN FROM THE SPECIAL FORCES AND COMMISSIONERS OF THE CAPITAL'S POLICE CAREFULLY STUDIED THE AREA, MEASURED THE BACKGROUND RADIATION AND TAPE-RECORDED THE STRANGE SOUND, WHICH WAS STILL HEARD IN THE AREA AFTER THE DISAPPEARANCE OF THE UFO. THE SNIFFER DOGS DID NOT DISCOVER ANYTHING SUSPICIOUS AND BEHAVED QUIETLY. BUT IT WAS NOTED THAT THE TALL GRASS AROUND THE PLACE OVER WHICH THE SPHERE HAD "HUNG" WAS FLATTENED TO A RADIUS OF 10 METERS.

LITHUANIAN SCIENTISTS HAVE NOT YET EXPRESSED AN OPINION ON THE APPEARANCE OF THIS UFO NEAR VILNIUS. POLICE COMMISSIONER VALENTINAS JUCHNEVICIUS SAID IN A RADIO INTERVIEW TODAY THAT BOTH OFFICERS WHO WATCHED THE SHINING OBJECT "ARE PSYCHOLOGICALLY HEALTHY, NORMAL PEOPLE, NOT NOTED FOR CRANKINESS."

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ITEM NO=00563722
DTG 252238Z JAN 96
FROM FM FBIS ABIDJAN IV
TO TO RUCWAAA/FBIS RESTON VA
RHDLCNE/CINCUSNAVEUR LONDON UK//N2//
RHHJJAA/JICPAC HONOLULU HI
RHIUFAA/CDR JPOTFSWA//AOCP-POG/ANALYST//
RUCLBBA/USCENTAF SHAW AFB SC//A2//
RUCLBMA/330SS EGLIN AFB FL//OSN//
RUCMACC/CDR PSYOPGP FT BRAGG NC//ASOF-POG-SB//
RUCQAAA/USCINCCENT INTEL CEN MACDILL AFB FL
RUCWAAA/FBIS RESTON VA//POLCH//
RUDHNIS/DIRNAVCRIMINVSERV WASHINGTON DC
RUDHSIC/CDRUSASOIC WASH DC//DIS//
RUDMQAN/MARCORINTACT DET QUANTICO VA
RUDPMAX/FAISA FT BRAGG NC
RUDPWDC/DA AMHS WASHINGTON DC
RUEABND/DRUG ENFORCEMENT ADMIN HQ WASHINGTON DC//POL//
RUEAIIS/STORAGE CENTER FBIS RESTON VA
RUEALGX/DEFINTAGNCY WASH DC
RUEBFGA/VOA WASHINGTON DC
RUEDADA/AFISA AMHS BOLLING AFB DC
RUEHNR/AMEMBASSY NAIROBI
RUETIAV/MPC FT GEO G MEADE MD
RUFOADA/JAC MOLESWORTH RAF MOLESWORTH UK//DOAM//
RUFQBBA/US SURVEY SEC SHAPE BE
RUWTAEA/NAIC WRIGHT PATTERSON AFB OH//TAI//
CONTROLS
UNCLAS 8B

WARNING: ATTN CIFM

SERIAL: AB2501223896

BODY
COUNTRY: SOMALIA
SUBJ: SOMALILAND PRESIDENT EGAL SPEAKS ON MYSTERIOUS BOMB BLAST

SOURCE: LONDON BBC WORLD SERVICE IN ENGLISH 1705 GMT 25 JAN 96
TEXT:

FROM THE "FOCUS ON AFRICA" PROGRAM

FBIS TRANSCRIBED TEXT THERE HAVE BEEN REPORTS THIS WEEK OF MYSTERIOUS EXPLOSIONS IN THE REMOTE EASTERN REGION OF THE SELF-DECLARED REPUBLIC OF SOMALILAND. THEY APPARENTLY OCCURRED IN DECEMBER, BUT BECAUSE OF THE REMOTE NATURE OF THE AREA HAVE BEEN SLOW COMING TO LIGHT. THE BLASTS HAVE BEEN ATTRIBUTED TO VARIOUS CAUSES FROM UNIDENTIFIED FLYING OBJECTS, UFO'S, TO ROCKET TESTS. WELL, SOMALILAND LEADER, MOHAMED EGAL, HAS BEEN LOOKING INTO THE

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MATTER. ON THE LINE TO HARGESA, TIMOTHY ECOTT ASKED HIM WHAT HE THOUGHT HAD BEEN GOING ON.

BEGIN RECORDING EGAL WE HAVE THESE MYSTERIOUS REPORTS FROM OUR NOMADIC POPULATION THERE, AND THEN, I SENT A FOUR-MAN COMMISSION, TWO DOCTORS, A VETERAN DOCTOR, AND ONE MINISTER, AND THEY HAVE SUBMITTED TO US A REPORT, WHICH IS VERY, VERY ALARMING. THEY SAID THAT THEY WENT THERE ALMOST A FORTNIGHT AFTER THIS THING HAS TAKEN PLACE AND THEY FOUND MOST OF THE ANIMALS IN THE AREA ARE STILL IN A SORT OF A DEMENTED STAGE. THEY WERE NOT GRAZING, THEY WERE JUST STAMPEDING ALL OVER THE PLACE.

ECOTT YOU SAID THE ANIMALS WERE DEMENTED. WHAT ABOUT THE PEOPLE LIVING THERE?

EGAL SOME OF THEM, WHO WERE VERY CLOSE TO THE AREA, HAVE GOT SKIN RASHES, AND SOME OF THEM ARE HAVING VERY, VERY BIG PROBLEM. THEY ARE ALMOST (?SHEDDING THEIR OUTER SKIN), THERE ARE WORDS INDISTINCT BOILS ALL OVER THE PLACE, AND SOME OF THEM ARE HAVING STOMACH ACHES, YOU KNOW, AND VERY UNUSUAL MOTIONS -- STOMACH MOTION -- AND A LOT OF SYMPTOMS HAVE BEEN REPORTED. WE ARE SENDING BACK SOME DOCTORS TO ACTUALLY EVALUATE THE HUMAN DAMAGE AND THE ANIMAL DAMAGE THAT HAS BEEN DONE.

ECOTT DID ANYONE GET AN EYEWITNESS ACCOUNT OF WHAT THIS EXPLOSION MIGHT HAVE BEEN CAUSED BY?

EGAL THE PEOPLE WHO WERE THERE, YOU KNOW, THE STORIES THEY TELL IS THAT THEY HEARD NO NOISE. APPARENTLY WHATEVER EXPLODED WAS MOVING AT A SUPERSONIC SPEED, BECAUSE THERE WAS NO PRIOR NOISE OR ANYTHING LIKE THAT. YOU KNOW, THEY JUST HEARD A VERY, VERY, VERY LOUD EXPLOSION WHICH HAS TAKEN PLACE AND THE LIGHT, YOU KNOW, THE LIGHT OF THE EXPLOSION IN THE AIR. THE AREA IS SO BIG THAT THEY DIDN'T HAVE THE CAPABILITY OR THE TIME TO INVESTIGATE THE WHOLE GROUND AND TRY AND PICK UP ANY DEBRIS THAT MIGHT HAVE FALLEN. THEY HAVEN'T BEEN ABLE TO DO THAT.

ECOTT WHATEVER YOUR AUTHORITY IS CLAIMING THAT THIS MIGHT HAVE BEEN, SOME OF THE NEWS AGENCIES ARE TALKING ABOUT UFO'S.

EGAL NO, NO, NO, NO, WE ARE NOT MAKING ANY CLAIMS OF THAT OR ANY FANTASTIC CLAIMS LIKE THAT, YOU KNOW. WHAT WE THINK HAPPENED IS THAT THERE MUST HAVE BEEN A MISSILE FIRED FROM SOMEWHERE, WHICH HAS EXPLODED EITHER DELIBERATELY OVER OUR COUNTRY OR WHETHER IT HAS EXPLODED INADVERTENTLY, WE CAN'T TELL. SO, WHAT WE ARE ASKING NOW, PEOPLE LIKE THE ENGLISH, AND FRENCH, AND ESPECIALLY THE AMERICANS WHO MONITOR THE WORLD, THEY MUST KNOW WHAT HAPPENED, YOU KNOW. THEY DEFINITELY KNOW WHAT HAPPENED, THEY ARE MONITORING THE WHOLE WORLD, RECONNAISSANCE 24 HOURS A DAY, YOU KNOW. AND THEY KNOW WHAT HAPPENED. IF IT WAS SADDAM HUSAYN WHO FIRED THE MISSILE, IT WOULD HAVE BEEN IN THE HEADLINES ALL OVER THE WORLD. BUT APPARENTLY WHOEVER FIRED THE MISSILE IS STILL IN THE GOOD BOOKS OF THOSE WHO KNOW, AND THEY DON'T WANT TO PUBLICIZE IT. BUT WE WANT TO KNOW WHAT HAPPENED TO US SO THAT AT LEAST WE WILL KNOW HOW TO DEAL WITH IT.

ECOTT IS ANYBODY OFFERING YOU HELP TO INVESTIGATE AND TO LOOK AFTER THE PEOPLE YOU SAY HAVE BEEN INJURED?

EGAL WELL, WE HAVE SENT IT -- YES -- TO THE AMERICAN EMBASSY, YOU KNOW. WE HAVE SENT IT TO THE BRITISH EMBASSY, WE HAVE SENT IT

TO THE FRENCH EMBASSY, AND WE HAVE SENT TO THE BBC, AND TO THE REUTERS AND PEOPLE LIKE THAT, YOU KNOW. NOBODY HAS YET RESPONDED, BUT WE HAVE MADE THE APPEAL AND WE ARE STILL MAKING IT. END RECORDING

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SEQUENCE NR: MSG90180018 USER: [redacted] ID: 44917-92OCT05/09.02.55/

CLASSIF: UNCLASSIFIED

TEXT: RATUZYUW RUDKCSA3478 1051932-UUUU--RUCIAEA.
DE RUDKMKA #3478 1051928
ZNR UUUUU ZYN
[redacted]
TO RUCWAAB FBIS RESTON VA
RHCGSRA CDR FORSCOM FT MCPHERSON GA AFIN IOT
RHDIAAA 480TH RTG LANGLEY AFB VA INPAR
RHEGLAI DOE LANL INTELLIGENCE DIVISION IT STILLMAN
RHEGLLL DOE LAWRENCE LIVERMORE LAB L-389
RHEGSNM SANDIA NATIONAL LABORATORY 9110 PATRICIA NEWMAN
RUADJHA CDR500THMIGP CP ZAMA JA IAGPD-AS
RUADJNA DET 4 FTD YOKOTA AB JA
RUCBSAA USCINCLANT NORFOLK VA J2
RUCEAAM USSPACECOM INTEL CEN CHEYENNE MTN AFB CO JSIC
RUCHNVM NASA JOHNSON SPACE CEN HOUSTON TX ALICE MARTIN
RUCIAEA FTD SQHR WRIGHT PATTERSON AFB OH
RUDKFV FBIS VIENNA AU
RUDKMKB FBIS LONDON UK BBC
RUDMNOP NAVOPINTCEN SUITLAND MD MAD-821R
RUDMNSC NAVTECHINTCEN WASHINGTON DC
RUDMNSC NAVTECHINTCEN WASHINGTON DC DS313 DOLORES
RUEABOL HQ AFIA BOLLING AFB DC INIA
RUEAIIA CIA WASHINGTON DC
RUEANAT NASA HQ WASHINGTON DC FOR CODE LD
RUEATAC CDR USAITAC WASHINGTON DC AIAIT-KT
RUEBHAA STORAGE CENTER FBIS RESTON VA
RUEBHHA USNA ANNAPOLIS MD LANGES-STUD
RUEHC SECSTATE WASHINGTON DC INR ISD DC
RUEHIA USIA WASHINGTON DC P RLS M PT
RUEKJCS DEFINTAGNCY WASH DC
RUENAAA CNO WASHINGTON DC OP-009Y1
RUEOACC CDR PSYOPGP FT BRAGG NC ASOF-POG-SB
RUEOACC CDR6THPSYOPBN FT BRAGG NC AFVS-POS-DD
RUEOAYC CDR FSTC INTEL CHARLOTTESVILLE VA IS3
RUEORDF DIR AFMIC FT DETRICK MD IS
RUESPF FBIS CHIVA CHIVA PM
RUETIAL HQ AFIA FT GEO G MEADE MD INII FOR BREWER
RUETIAV FT GEO G MEADE MD P-16
RUETIAV MPC FT GEO G MEADE MD
RUHQHQA USCINCPAC HONOLULU HI
RUHQIPA COMIPAC HONOLULU HI
RUWJHRA CDRUSAISC FT HUACHUCA AZ ATSI-TD-SF LANGUAGE LAB
RUWMLHB COMDT DLI MONTEREY CA FLC PMRY ATFL-SS-R
ACCT FBLD-EWDK
BT

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Date MAY 1997

SEQUENCE NR: MSG90180018 USER [redacted] ID: 44917-92OCT05/09.02.55/

UNCLAS 7Z TAB VIDEO 291
WARNING: FOUO--DUE TO COPYRIGHT OR OTHER RESTRICTIONS, THIS ITEM I
INTENDED FOR USE ONLY BY U.S. GOVERNMENT CONSUMERS.
WARNING: A VIDEOTAPE OF THE NEWSCAST SUMMARIZED BELOW CAN BE ORDER
FROM THE FBIS TV CENTER. TAPES NOT ORDERED WITHIN 30 DAY
WILL BE ERASED.
SERIAL: LD1504191890

PASS: ATTN TV CENTER
COPY TO MOD (2), LIAISON (2), AG
SUBJ: PROGRAM SUMMARY -- PAR 90- 002
SOURCE: PARIS ANTENNE-2 TELEVISION IN FRENCH 1800 GMT 15 APR 90
TEXT:
//((PRESENTED BY PHILIPPE GASSOT; RECEPTION FAIR))
1. (0:53) EASTER CELEBRATIONS IN ROME, LINKED UP WITH MOSCOW FC THE TIME. REPORT OVER VIDEO SHOWS POPE ADDRESSING CROWD.
2. (2:10) REPORT OVER VIDEO OF EASTER CELEBRATIONS IN ROMANIAN, BULGARIA, POLAND.
3. (2:53) VIDEO REPORT FROM JERUSALEM, SHOWING SETTLERS IN CHURCH BUILDING, DEMONSTRATIONS FOR AND AGAINST, INTERVIEW WITH PEA NOW ACTIVIST.
4/ (4:54) REPORT OVER VIDEO OF EASTER IN BERLIN.
5. (5:20) VIDEO REPORT FROM LITHUANIA, SHOWING LANDSBERGIS JOINING WITH EASTER WORSHIPPERS.
6/ (7:25) BOMB EXPLOSION IN PERU KILLS POLICEMEN.
7/ (7:44) REPORT OVER VIDEO OF MAN TRYING TO PLACE WREATH IN BEIJING.
8. (8:21) VIDEO REPORT OF ARRIVAL OF MANDELA IN LONDON, AND REHEARSALS FOR TOMORROW'S CONCERT. INTERVIEW WITH SINGER JIM KERR.
9/ (10:07) STRANGEWAYS REVOLT CONTINUES IN UK.
10. (10:20) REPORT OVER VIDEO OF HILLSBOROUGH COMMEMORATION.
11. (10:52J) RED CROSS STAGES PRACTICE DISASTER RESCUE IN PARIS VIDEO REPORT. INTERVIEW WITH ORGANIZER AND PARTICIPANTS.
12. (13:33) VIDEO REPORT ON ARMS INDUSTRY, SHOWING TANKS BEING TESTED, CONNECTED WITH NEW STATUS OF GIAT (MN GROUPEMENT DES INDUSTRIES D'ARMEMENTS TERRESTRES) WHICH IS TO BECOME A NATIONAL COMPANY FROM 1 JULY. INTERVIEW WITH MANAGING DIRECTOR PIERRE CHIQUET EXPLAINING HOW IT AIMS TO EXPAND ITS ACTIVITIES.
13. (17:04) VIDEO REPORT OF FATE OF ABANDONED CHILDREN IN FRANC AND THEIR FOSTER PARENTS.
14. (20:04) TENTH ANNIVERSARY OF DEATH OF SARTRE: ARCHIVE FOOTAGE. INTERVIEW WITH SERGE REGGIANI ABOUT HIS ROLE IN A SARTRE PREMIERE.
15. (23:00) REPORT OVER VIDEO OF UFO HUNT IN BELGIUM.
16. (24:25) CYCLING.
[redacted] 15/1930Z APR
BT
#3478
NNNN